

COMPENDIUM

SAFE VACUUM

ASSISTED VAGINAL BIRTH

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Safe Vacuum Assisted Vaginal Birth: Compendium
Version 1.0

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CONTENT

List of Abbreviations.....	3
Summary.....	5
• Key Facts.....	6
• For whom may this Compendium be relevant	6
Safe Vacuum Implementation Model.....	7
The Components of Safe Vacuum Assisted Birth.....	8
Continuous Communication	9
Clear Indications	9
• Known risk factors for failed VAB	9
Teamwork.....	10
Equipment.....	10
SOP and Checklist.....	10
Debriefing every VAB.....	11
Clinical Mentorship	11
Quality Improvements.....	12
Regular Training	12
Local Champions.....	12
Ten Actions for Successful Implementation	13
1. Form a Safe Vacuum Committee and define their roles.....	14
2. Perform baseline survey about motivation and readiness	15
3. Build awareness and advocacy among staff, management, and the community	16
4. Purchase equipment for training and VAB procedure.....	17
5. Arrange Foundational Training	18
6. Write SOP with responsibilities and practical clinical checklist	19
7. Train local champions for regular team simulations and clinical debriefs	20
8. Provide clinical mentorship and supportive supervision	21
9. Evaluate and make improvements	22
10. Create a Safe Vacuum Registry and celebrate success!.....	23
Sustainability Considerations	24
• How to Mitigate Known Barriers	26
The Safe Vacuum Learning Solution.....	27
Competency Modalities and Educational Activities for Safe Vacuum.....	29
Learning Journey Roadmap	31
Phase 1: Knowledge and Skill Foundation	32
• Week 1: Launch and first simulation	32
• Weeks 2–3: Foundational training.....	32
• Weeks 4–6: Skill reinforcement and simulation launch	33
Phase 2: Clinical Application and Mentorship	34
• Weeks 7 - 8: First clinical mentorship visit and initial VAB procedures.....	34
• Weeks 9 - 10: Team coordination and non-technical skills	34
• Weeks 11–12: Building confidence and preparing for Phase 3	35
Phase 3: Evaluation and Sustainability	36
• Ongoing activities.....	36
Rotational Onboarding.....	36
Cascade Model for Training.....	37
Local Champions: Selection, Role, and Sustainability	38
List of References:	39

Attachments..... 40

• Attachment 1: Respectful Maternity Care Checklist.....	41
• Attachment 2: VAB Indications, Contraindications & Registry	42
• Attachment 3: Example of Risk Factors for Failed Vacuum	43
• Attachment 4: Example SOP (Standard Operating Procedure) and VAB Checklist.....	44
• Vacuum extraction Checklist.....	46
• Attachment 5: Clinical Debriefing Template	47
• Attachment 6: VAB Baseline Survey Questions.....	48
• Attachment 7: Community Brochure	49
• Attachment 8: Safe Vacuum Presentation on Misconceptions.....	50
• Attachment 9: ToT Part 1 Training Report (March 2025)	55
• Attachment 10: Mentorship Visit Checklist Example from SBBC 2	61
• Attachment 11: Prioritized Summary of Jhpiego HMBS Course.....	65
• Attachment 12: Registry Data Points Example	67
• Attachment 13: Scenario Cards.....	68
• Attachment 14: Training Log – an example from HLH	75
• Attachment 15: Case Report from Haydom Lutheran Hospital	76
• Attachment 16: Clinical Mentorship - a Case report from Haydom	80
• Attachment 17: Quarterly VAB Committee Review Meeting - Proposed Structure.....	83



A VAB case from Haydom, Tanzania

This morning at 10 a.m., a 21-year-old woman expecting her first child was admitted in labour. She was having regular contractions, and her cervix was 8 cm dilated. By 4 p.m., she had been fully dilated for three hours and had been pushing for two hours. The amniotic fluid was meconium-stained, and the fetal heart rate indicated fetal distress.

The VAB team, led by Dr Simon, successfully performed a vacuum-assisted birth, and a baby boy was born! The team had a very good debriefing afterwards. The baby boy is doing well, and his name will be Brilliant!

Story shared by Dr Anna Sand

List of Abbreviations:

ABBREVIATION	FULL FORM	NOTES / CONTEXT
AGOTA	Association of Gynaecologists and Obstetricians of Tanzania	Tanzanian professional partner
ANC	Antenatal Care	
AVD	Assisted Vaginal Delivery	Synonymous with VAB / VAD in some literature
BEmONC	Basic Emergency Obstetric and Newborn Care	WHO essential function set
BJOG	British Journal of Obstetrics and Gynaecology	Journal cited in references
BMC	BioMed Central	Publisher (e.g. BMC Public Health)
BMV	Bag-Mask Ventilation	Newborn resuscitation
CoL	Circle of Learning	Laerdal's learning framework
CPD	Continuing Professional Development	Training (career development)
CS	Caesarean Section	
ECLB	Essential Care for Labour and Birth	HMBS curriculum module
EFW	Estimated Fetal Weight	
FHR	Fetal Heart Rate	
FIGO	International Federation of Gynecology and Obstetrics	Fédération Internationale de Gynécologie et d'Obstétrique
GA	Gestational Age	
GHSP	Global Health: Science and Practice	Journal cited in references
HLH	Haydom Lutheran Hospital	Pilot site, Manyara, Tanzania
HMBS	Helping Mothers and Babies Survive	Jhpiego curriculum (covers ECLB, POL, VAB)
HMS	Helping Mothers Survive	Jhpiego curriculum series (predecessor to HMBS)
KUH	Karolinska University Hospital	Swedish partner
LMICs	Low- and Middle-Income Countries	
LVC	Local Vacuum Committee	Facility-level governance body at HLH
OB / GY	Obstetrics / Gynaecology	Departmental designation
PDSA	Plan-Do-Study-Act	Quality-improvement cycle
POL	Prolonged (and Obstructed) Labour	HMBS curriculum module
PPH	Postpartum Haemorrhage	
QI	Quality Improvement	
RMC	Respectful Maternity Care	
SBAR	Situation, Background, Assessment, Recommendation	Structured clinical communication tool
SBBC	Safer Births Bundle of Care	Norwegian-led research-to-practice programme
SOP(s)	Standard Operating Procedure(s)	
SSI	Surgical Site Infection	

SUS	Stavanger Universitetssjukehus (Stavanger University Hospital)	<i>Norwegian partner</i>
SV	Safe Vacuum	<i>Programme / compendium name</i>
SVD	Spontaneous Vaginal Delivery	
TAMA	Tanzania Midwives Association	<i>Tanzanian professional partner</i>
TCL	Ten Cell Leader / Balozi	<i>Local Tanzanian community-level administrative role (used on patient registration)</i>
ToT	Training of Trainers	<i>Also written as TOT or TOTs</i>
UNICEF	United Nations Children's Fund	<i>Source of vacuum extractor supply specifications</i>
VAB	Vacuum-Assisted Birth	<i>Primary term used throughout the compendium</i>
VAD	Vacuum-Assisted Delivery	<i>Synonym for VAB / AVD</i>
VE	Vacuum Extraction / Vaginal Examination	<i>Context-dependent; VE = Vacuum Extraction in procedure context; Vaginal Examination in assessment context</i>
WHO	World Health Organization	

SUCCESS STORIES

Twin Delivery through Safe VAB

"A 27-year-old mother from Nakwa was in labour at 39 weeks, expecting her fifth baby. By late morning, she was fully dilated, but after an hour of pushing, she was exhausted and the baby was not progressing further.

An ultrasound then revealed a surprise – twins! The first baby was in a cephalic presentation and the second in a breech presentation.



We counselled the mother, obtained her consent, and prepared for a Safe VAB. Roles were assigned, sterility was maintained, and the Safe VAB checklist was followed. At 12:40 p.m., the first baby was successfully delivered by vacuum – a healthy baby girl weighing 2.6 kg. Twenty minutes later, her twin sister was born. Both girls had Apgar scores of 9 out of 10, and their mother remained stable after the birth with no perineal tears. Two healthy baby girls, safely delivered with the support of Safe VAB."

Story shared by the VAB team from Babati Town Council Hospital

Summary

Safe Vacuum is the name of a method to make vacuum assisted birth safer for women, newborns and health workers. The method is based on best practice and research from hospitals in Sweden, Norway, Uganda and Tanzania.

The method and this compendium comprise and describe:

- The components of Safe Vacuum
- The action steps for successful implementation of Safe Vacuum
- A training framework for Safe Vacuum Assisted Birth

When perceived safe (for the baby, the mother and for health workers), vacuum assisted birth becomes a more realistic and acceptable alternative to second stage C-section. The Ministry of Health identifies assisted vaginal birth as a critical “signal function” for all Basic and Comprehensive EmONC facilities, emphasizing that these life-saving interventions must be available 24 hours a day. [22, 23]

Although second-stage Caesarean section is often perceived as the safer option, a growing body of evidence has shown that it is associated with substantially higher maternal mortality and morbidity compared with vacuum-assisted birth. According to the National Maternal Health Guidelines, VAB is an essential emergency obstetric skill for managing the second stage of labour and is specifically recommended to shorten labour in high-risk cases, such as mothers with heart disease or severe anaemia, to prevent exhaustion, (Maternal Health Guidelines 2022).[23] Several studies have demonstrated markedly increased risks of postpartum haemorrhage (PPH), infections, uterine scarring, maternal trauma, anaesthetic complications, and stillbirth following second-stage Caesarean section. In some settings, maternal mortality has been reported to be up to 14 times higher compared with vacuum-assisted birth. [1]

This Compendium is written to support local implementation of the Safe Vacuum Assisted Birth. It is based on FIGO and WHO recommendations [2], [3], learning material from Jhpiego [4], [5] professional support from AGOTA and TAMA, the Ministry of Health EmONC Job Aids, [22], the Tanzania Maternal Health Guidelines [23], recent research [3], [6], [7], [8] and principles from the Global Resuscitation Alliance. [9]

The Safe Vacuum (SV) compendium provides a collection of resources, training methods, practical tools and success stories to make vacuum assisted training and births more accessible.

Key Facts

- *Despite current evidence reporting greater risks and higher costs of caesarean birth compared with assisted vaginal birth, the number of caesarean births has increased while the practice of assisted vaginal birth has declined, particularly in low- and middle-income countries. [3], [10], [11]*
- *In low- and middle-income countries, mothers who give birth by caesarean section are 50-100 times more likely to die than those having the procedure in high-income countries. In these settings, caesarean sections also contribute to life-long health problems that affect the women's quality of life and their ability to safely have more children. [11], [12]*

Compared to second stage caesarean section, safe VAB is associated with the following benefits: [1], [13], [14]

- Shorter time from decision to birth
- Lower risk of maternal hemorrhage and infections
- Faster maternal recovery with shorter hospital stays and cost savings
- Less risk of maternal deaths
- Better newborn outcomes

For whom may this Compendium be relevant

This Compendium contains resources for:

- Ministry of Health
- Hospital management
- Local Safe Vacuum committees
- Local champions for training and learning
- Skilled birth attendants: midwives/nurses, registrar doctors, obstetricians
- Professional associations, trainers and mentors
- Academic institutions

Safe Vacuum Implementation Model



THE COMPONENTS OF SAFE VACUUM ASSISTED BIRTH

The following components characterize best practice for Safe Vacuum Assisted Birth, grounded in current research and clinical experience from implementing hospitals.



Continuous Communication

Continuous communication is an essential part of respectful maternity care and a key component of Safe Vacuum. It requires attentive listening, empathy, plain language, and awareness of culturally sensitive concerns.

Continuous communication should cover:

Pre-procedure communication:

- Inform of the mother and baby's progress, and the team's decision on birth as well as the options.
- Provide informed consent to the mother: explain the procedure, why it is necessary to perform it, its potential risks and benefits to the mother and baby.
- Explain the role of the client and her partner: explain what the mother can do and how a partner can support the mother during the procedure.
- Provide pain management options, such as breathing techniques and instructing how to perform them.
- Inform collaborating team, i.e., the operating theatre team.

Intra-procedure communication:

Team coordination: Communicate clearly and precisely with team members according to their corresponding task. Provide regular updates on the progress.

- Reassurance: encourage and reassure both mother and partner, provide progress of the procedure.

Post-procedure communication:

- Document and explain the outcome of the newborn and mother and any raised complications.
- Provide information to the mother that will aid in quick recovery such as pain management, perineal care, and breastfeeding.

Research suggests that clinical teams who had good communication also demonstrated good clinical performance. [15]

Resources:

[Attachment 1 - Respectful Maternity Care Checklist](#)



Clear Indications

When safely performed by trained and skilled professionals, and based on proper indications, VAB has been proven to reduce maternal and neonatal morbidity and mortality. Use when contraindicated, or without clear indications can result in severe adverse outcomes. [16]. VAB indications are always relative and never absolute (FIGO guideline).

Best practice includes:

- Describe indications and contraindications clearly in the SOP. Make sure the SOP is well known and followed.
- Timely decision making
- Understand the risk factors associated with a failed vacuum. Discuss these within the team.
- Inform and involve: The decision to try vacuum should involve the senior doctor as well as notifying the theatre team in case there is a need for C-section. A failure rate of 3-5% should be considered as normal.
- Correct application of the instrument, pulling technique and knowing when to abandon the procedure are very key in mitigating complications of VAB.[2]

Known risk factors for failed VAB

Failed vacuum extraction can be predicted both from antepartum as well as from intrapartum indicators. [17]

Resources:

[Attachment 2 - VAB Indications and Contraindications](#)

[Attachment 3 - Example of Risk Factors for Failed Vacuum](#)



Teamwork

Teamwork is key in achieving a high level of clinical performance in safe vacuum assisted birth.[15]
Optimal team consists of four or more health professionals according to best practice from Karolinska University Hospital:

“The team should be able to split roles and responsibilities where one is monitoring FHR and taking care of the mother while a lead operator performs the extraction, the third provider is supporting perineum, adjusting infusion of oxytocin and keeping time, and the fourth is taking care of the equipment”.

A doctor and anaesthetic should always be informed to get prepared for C-section in case of failed VAB. If done in a setting where the C-section is not available e.g BEmONC center, a referral plan should be in place to access the C-section. Critical thinking is a core team skill that needs to be developed over time.



Equipment

The equipment for vacuum extraction should always be sterilized, tested and easily available. One person should be assigned as responsible (such as medical attendant) whose job description includes taking care of the VAB equipment (organizing, sterilizing and assembling when needed) ready-to-be-used.

Options include the metal cup from Medela (reprocessable) or the disposable Omnicup from Kiwi. The Omnicup is not as successful at achieving a vaginal delivery as currently used metal cups.[18] Medela cup allows connection to a manual or electrical vacuum pump, whereas Omnicup has a vacuum pump integrated.

Resource: [Video of Equipment assembly](#)



SOP and Checklist

A Standard Operation Procedure (SOP) should describe roles and responsibilities along with a detailed description of the procedure. The SOP is best developed based on examples from well-experienced hospitals. Attachment 4 is the SOP used at Haydom Lutheran Hospital.

A Checklist should be used during every VAB procedure. Best practice from Karolinska and Haydom is to use the Checklist during in-situ simulations and in the clinic:

“A team member (often the person assigned to operate the vacuum pump) reads out loud from the checklist. The other team member responds, making sure nothing is forgotten in the heat of the moment”.

Resource:

[Attachment 4 - SOP \(Standard Operating Procedure\) and VAB Checklist](#)



Debriefing every VAB

Many vacuum assisted birth cases hold a learning potential. A short debrief is recommended shortly after every VAB, allowing team members to learn through discussion, reflection and improve on quality of care. Best practice is to use a debrief form which also helps collect data for a local Safe Vacuum Registry.

Resource:

Attachment 5 – Clinical Debriefing Template



Clinical Mentorship

Close clinical mentorship from experts who are positive about Safe Vacuum is highly recommended. [19] Safe Vacuum clinical mentors are individuals who have been trained, done many VABs, who believe in the importance of the team to succeed, and who are willing to help others. Safe Vacuum clinical mentors will find ways to:

- Mitigate fear of doing VAB
- Help individuals grow their talent and improve on skills
- Foster a team culture

Fear is common during the first year of implementation, until individual practice becomes experienced with good outcomes. A mentor will lead by example and will closely guide the procedure for those less experienced. The mentor observes and guides teamwork both during simulation and in the clinic. Adverse events during vacuum-assisted births may occur. Root causes can be underlying factors rather than the procedure itself. The risk of adverse events is less when the team applies critical thinking, carefully considering the need for VAB vs allowing birth to progress naturally.

A Clinical mentor may also be a local champion who builds competency and confidence through:

- Skills training
- Having performed >10 VAB
- Regular in-situ simulations and hands-on training sessions
- Running clinical debriefs with feedback and coaching to team and individuals
- Helps motivate and identify talents of those who want to practice Safe Vacuum
- Supports with advocacy, internal and external

Resource:

Attachment 16: Clinical Mentorship - A case Report from Haydom



Quality Improvements

Continuous improvement is essential for safe vacuum assisted birth. The PDSA framework, as used in Safer Births Bundle of Care may guide the process:

1. Plan: Evaluate current state and define objectives

- Form a multidisciplinary team including obstetricians, midwives, nurses, pediatricians/neonatologists, and a quality improvement specialist.
- Review own data (from local registry) on current vacuum extraction (VE) rates, failed vacuum rates, indication for procedures, and neonatal/maternal trauma rates.
- Set specific goals, such as increasing uptake, reducing time intervals, reducing failure rates, or improving outcomes.
- Define interventions like changes to SOP, checklist, training, equipment etc. Identify quality indicators which can track progress and how / who to collect.

2. Do: Implement interventions

- Ensure information to all.
- Implement intervention and make sure training and in-situ simulation is aligned.
- Collect quality indicators.

3. Study: Measure and evaluate

- Review all vacuum-assisted births to monitor adherence to the intervention.
- Review and evaluate progress of quality indicators. Keep staff informed.

4. Act: Sustain and scale

- Conclude the intervention. Make necessary updates to policies, SOP and training to ensure practice is adopted and sustained.



Regular Training

Safe Vacuum is about building a learning culture through frequent hands-on skill training clinical practice, clinical mentorship and debriefing. The local VAB committee should plan and arrange regular (bi-weekly) team simulations, preferably in the maternity ward or simulation lab. Team simulations should involve all staff. The local VAB committee should also make a plan to onboard new staff.

See chapter **Safe Vacuum Learning Journey** for educational structure and guidance.



Local Champions

These are key individuals who demonstrate interest in and willingness to perform Safe Vacuum. They have a talent for personal growth and have key roles in implementation:

- They can be members of the local VAB committee
- They become trained as facilitators for simulation-based learning
- They organize and lead training sessions
- They take part in quality improvement activities
- They oversee and support clinical debriefing
- They take a leading role in advocacy
- With experience they can become clinical mentors

TEN ACTIONS FOR SUCCESSFUL IMPLEMENTATION



1 Form a Safe Vacuum Committee and define their roles

Why it matters: Sustainable implementation depends on delegated ownership. Without a named team, responsibilities diffuse across staff, equipment goes unchecked, competence and training gaps go unaddressed. A small yet committed committee provides the institutional memory and accountability that makes vacuum-assisted birth (VAB) practice reliable over time.

How to do it: Identify 3–4 staff members who have both clinical credibility and the willingness to champion Safe Vacuum, ideally including a midwife and a doctor and a nurse manager or equivalent. Together, the committee takes responsibility for developing and updating the standard operating procedure (SOP) and skills checklist, planning and coordinating training, maintaining and tracking equipment, and keeping a local registry of VAB procedures and outcomes. Initiate a launch meeting to formally agree on each member's specific role, a communication channel, and a regular review schedule.

When and how often: The committee is established before any other implementation step begins. More frequent meetings are recommended during the first six to twelve months; quarterly thereafter unless challenges arise.

What to look for: Early success looks like a committee that meets consistently, a SOP with a practical checklist that staff can locate and cite, and equipment that is functional and taken care of. A warning sign is when one person carries all the work; redistribute responsibilities immediately.

Resources:

[Attachment 17 - Quarterly VAB Committee Review Meeting - Proposed Structure](#)

Perform baseline survey about motivation and readiness

Why it matters: Clinical skills training will not succeed if the underlying conditions (staff attitudes, equipment availability, management support, and operating theatre backup) are not understood first. A baseline survey reveals what is already working, surfaces hidden concerns, and gives the Safe Vacuum committee a foundation for targeted action rather than generic rollout.

How to do it: Interview a cross-section of relevant staff, including doctors, midwives, clinical officers, and managers, using a structured questionnaire that covers past experiences with VAB, current attitudes, perceived barriers and facilitators, and available resources.

Combine this with a physical review of equipment (vacuum devices, metal cups, pressure gauges) and a records review to establish how often VAB is currently performed and with what outcomes. Both qualitative information (staff stories and concerns) and quantitative data (numbers, rates, equipment sets) are valuable and should be captured together.

When and how often: The baseline survey is conducted once, before implementation begins. The same survey tool might be beneficial as a follow-up instrument at three to six months into implementation, to measure early change in staff attitudes and confidence, and again at one year for formal evaluation.

This before-during-after measurement cycle feeds directly into the Quality Improvement process described in the QI component of this Compendium.

What to look for: The survey reveals whether staff feel psychologically safe performing VAB, whether equipment is functional and reliably available, whether operation theatre backup for emergency caesarean section is accessible, and whether management is actively supportive. Low scores in any of these areas are priorities for the next steps.

Resources:

[See Attachment 6 – VAB Baseline Survey Questions](#)

SUCCESS STORIES

Changing Perceptions through Safe VAB

“A 28-year-old mother, expecting her first baby, had already been in labour for nine hours when she was admitted at 38 weeks. By 10 pm she was fully dilated, but exhaustion set in and her pushing wasn’t working anymore.

Her husband, himself a healthcare worker trained in VAB, was the one who asked us to consider it. We counselled her, got her consent, and after two pulls her daughter was born: 3.4 kg, scoring 7 at one minute and a full 10 by five minutes. The mother sustained a second-degree tear, which was repaired successfully.

What stayed with the team was the husband’s trust in the procedure. For staff members who had previously had doubts about Safe VAB, this birth demonstrated how Safe VAB, when appropriately indicated and performed, can support a safe vaginal birth for both mother and baby.”

Story shared by the VAB team from Manyara Regional Referral Hospital





3

Build awareness and advocacy among staff, management, and the community

Why it matters: Even technically sound implementation fails when staff are sceptical, managers are not invested, or if families distrust the procedure. Advocacy is not a one-time announcement, it is an ongoing process of building shared understanding about why vacuum-assisted birth, when used correctly, and why it can be better than caesarean section in the second stage of labour.

How to do it: Run a VAB simulation with clinical staff to showcase and explain the procedure. Invite facility management and present key safety data, complication rates, and comparisons to caesarean section (see attachment 16). Directly address concerns about neonatal injury or equipment failure. Let staff handle the equipment and practice on a mannequin to gain experience before performing the procedure clinically.

For community-facing advocacy, work through existing health education channels (antenatal care groups, community health workers, and facility information boards) to explain what vacuum-assisted delivery is, when it is recommended, and what families can expect. Use simple, translated materials wherever available.

When and how often: Awareness activities begin before the first training session and continue throughout implementation. Advocacy is important after any adverse event or period of low uptake, when fear and doubts tend to re-emerge among staff. But also sharing and following stories after successful VAB cases is reinforcing good practice; good experiences build trust in the procedure over time.

What to look for: Signs of effective advocacy include staff who voluntarily ask questions about VAB, managers who allocate time and resources for training, and families who ask informed questions during antenatal visits rather than expressing fear. Persistent avoidance of the procedure by trained staff, even when clinically indicated, is a signal that advocacy work needs to be revisited.

Resources:

Attachment 7: An example of Community Brochure from Tumaini Hanang district Hospital

Attachment 8: Safe Vacuum Presentation on Misconceptions – adapted from TOT course

MAMABIRTHIE



MANUAL VACUUM EXTRACTOR SET WITH BIRD OBSTETRIC SUCTION CUPS



FLIP CHARTS FROM HMBS.ORG



[Link to flip chart](#)



[Link to flip chart](#)

4 Purchase equipment for training and VAB procedure

Why it matters: Dedicated training equipment must be kept separate from clinical equipment to ensure that any components used for learning are not used during actual procedures. Having a well-maintained, always-available training set is what makes low-dose, high-frequency simulation possible and sustainable.

How to do it: The Safe Vacuum committee assigns a designated staff member (such as a ward assistant or midwife) to oversee all equipment, either designated for training or for clinical use. This person checks that the vacuum cup, tube, and pump are intact, functional, clean, and properly stored before each use. The same checks apply to clinical equipment: seals should be unbroken, suction verified on a gloved hand, and metal cups sterilized. Equipment procurement is organized by the committee and included in the implementation budget. Supplier information is included in the Resources section.

When and how often: Equipment must be purchased before the first training session takes place. Routine checks on both training and clinical equipment (e.g. at the start of each week) and after any simulation or clinical use.

What to look for: A well-functioning equipment system means that any trained provider can locate, assemble, and test the vacuum device within two minutes (Video demonstration resource available on [web](#)). A warning sign is equipment stored in multiple locations, showing visible wear not checked recently and no spare parts available; these conditions predict procedure delays and undermine staff confidence.

Resources:

For clinical vacuum equipment:

Medela: CustomerService.International@medela.com

UNICEF: [Vacuum extractor, Bird, manual, complete set](#)

For training equipment:

MamaBirthie simulator:

shop.laerdalglobalhealth.com/product/mamabirthie/

Safe Vacuum resource page:

<https://saferbirths.com/project/safe-vacuum/>



5 Arrange Foundational Training

Why it matters: Introducing vacuum-assisted birth into a labour ward is not primarily a technical challenge, it is a cultural one. A structured, facilitated foundational training creates a shared knowledge base and common language across all ward staff, not just the clinicians who will perform the procedure. Without this shared foundation, simulation sessions lack context and clinical mentorship lacks a reference point.

How to do it: The committee arranges a three-day foundational training course based on the Helping Mothers and Babies Survive (HMBS) programme, covering Essential Care for Labor and Birth (ECLB), Prolonged and Obstructed Labor (POL), and Vacuum Assisted Birth (VAB). All labour ward staff should attend, not only senior clinicians, since Safe Vacuum requires coordinated teamwork from every person present in the delivery room, including midwives, nurses, and medical attendants.

Before the training, the committee confirms attendance, arranges the training space, and ensures that the MamaBirthie model and vacuum equipment are available and tested. A successful training outcome is one in which every participant can describe the Safe Vacuum components, has practiced the vacuum procedure hands-on at least once, and able to step in their specific role in the team simulation practice.

When and how often: The foundational training takes place after the committee is formed and equipment is purchased, and before clinical VAB practice begins. It is not a one-time event: every new staff member who joins the labour ward completes an equivalent onboarding. Local champions, once trained through the Training of Trainers programme, take responsibility for delivering this onboarding within the facility.

What to look for: Successful training produces visible behaviour change: staff who ask clinical questions about indications, who seek opportunities to practice on the simulator, and who reference the Safe Vacuum checklist in discussion. A concern arises if senior staff are absent or dismissive, their engagement signals approval and support from the institution and directly influences junior staff.

Resources:

HMBS training programmes at hmbs.org/training-programs.

See [the Safe Vacuum Learning Journey](#) chapter for the full educational structure and the Training Cascade Model for onboarding new staff.

Attachment 9: ToT Part 1 Training Report

Attachment 11: Prioritized summary of Jhpiego HMBS course



6

Write SOP with responsibilities and practical clinical checklist

Why it matters: Without a written, approved standard operating procedure (SOP), clinical practice varies between providers and shifts, making it difficult to review outcomes or identify patterns in adverse events. The SOP creates a shared standard that staff can be held accountable to, and the checklist derived from it provides a real-time safety prompt at the moment of every VAB procedure.

How to do it: Plan a workshop involving the Safe Vacuum committee, senior clinicians, and at least one midwife representative to draft the SOP collaboratively. The committee assigns a primary author, at least one peer reviewer and if practical one external review (experience hospital or professional organization).

The SOP covers clear indications and contraindications, team roles and responsibilities, the step-by-step procedure, equipment preparation, and post-procedure actions including debriefing. Once drafted, refine it into a practical clinical checklist, a single laminated card, placed visibly in every delivery room.

Before the checklist enters clinical use, validate it in at least two simulation sessions where teams follow it accurately under realistic conditions. The SOP should

be reviewed part of QI initiative. The example SOP and checklist developed at Haydom Lutheran Hospital, provided in Attachment 4, offer a well-tested starting point that committees can adapt to their local facilities.

When and how often: The SOP drafting process begins during or immediately after the foundational training, while clinical knowledge is fresh and the committee has momentum. Checklist validation in simulation should occur before any clinical VAB is attempted. Annual review is the minimum standard; quarterly review is recommended in the first year.

What to look for: Success is a laminated checklist in every delivery room that staff can locate immediately and reference without embarrassment. A red flag is a checklist that exists only as a document file, or an SOP that has not been read or discussed since it was written.

Resources:

Attachment 4: Example SOP from Haydom Lutheran Hospital and VAB Checklist



7

Train local champions for regular team simulations and clinical debriefs

Why it matters: Clinical skill declines rapidly without practice, and VAB is an infrequent procedure in many settings, meaning that by the time the next case arrives, months may have passed since the last one. Regular team simulations, held at low-dose and high-frequency, counteract this decline and build the non-technical skills like leadership, communication, situational awareness which determine how teams perform under pressure. Clinical outcomes are always a platform for quality improvement. Healthcare workers should immediately conduct a clinical debrief (small discussion) on what went well and what they wish to improve.

How to do it: Identify 2-3 local champions to be enrolled in the Safe Vacuum training of trainers (ToT) program. The ToT program enables facilitators to create and run brief, practical in-situ team simulations in the labour ward using a volunteer with MamaBirthie, a vacuum set dedicated for training, the Checklist and 4 local staff. Complement their skillset with SimBegin course, available through Haydom Lutheran Hospital.

Bi-weekly sessions are recommended during the first year of Safe Vacuum implementation: Allow 30 to 45 minutes sessions just after the morning report. Encourage all staff, including doctors, nurses, midwives, interns and medical attendants to attend.

A Safe Vacuum champion facilitates a scenario that leads to a structured debrief. Simulation in teams and clinical debrief after actual VAB cases are complementary: simulation builds clinical readiness and debrief after real cases builds learning.

The team conducting the VAB will have clinical debrief on what transpired during the procedure, document on what went well and what they wish to improve in the next procedure.

When and how often: The first simulation session is arranged during the foundational training days, ideally as a demonstration that invites all ward staff to observe. Once every two weeks sessions then continue as a standing commitment. Facilitators/Champions should be refreshed through the formal ToT programme within the first year and should themselves be mentored by external experts where possible.

Clinical debriefs are conducted immediately after the VAB procedure if time allows and not more than 24 hours after the procedure.

What to look for: A well-established simulation culture stimulates staff to arrive voluntarily, engage actively during scenarios, and are comfortable raising concerns in the debrief. A warning sign is simulation sessions cancelled repeatedly, poorly attended, or conducted without a structured debrief; these patterns signal that simulation has not yet become a valued part of ward culture. Clinical debrief focuses on what went well and what the team wished to improve.

Resources:

SimBegin methodology from *Laerdal Global Health* (contact Haydom Lutheran Hospital for training opportunities)

Attachment 5: Clinical Debriefing Template

See the *Safe Vacuum Learning Journey* chapter for the full educational structure and Training Cascade Model.



8

Provide clinical mentorship and supportive supervision

Why it matters: Simulation and training prepare staff to perform, but clinical mentorship is what translates simulated competence into confident, consistent real-world practice. An experienced mentor provides role modelling, coaching during and after live cases, and a trusted relationship in which clinicians can share doubts and discuss failures without fear of judgment. At Haydom Lutheran Hospital, four structured mentorship visits over two years produced measurable increases in VAB frequency and sustained improvements in team culture (See Clinical Mentorship – a Case Report from Haydom).

How to do it: Mentorship operates at two levels. External mentors (experienced VAB practitioners from referral hospitals or partner institutions) visit on a scheduled basis, spending several days on the ward to observe, assist, and debrief on live cases. The four mentorship visits at HLH, illustrate how a structured visit programme builds capacity progressively. Internal mentors (local champions who have completed the Training of Trainers programme) provide continuity between external visits through simulations, debriefs, and day-to-day peer coaching. The Mentorship Checklist (Attachment 10) is used to plan visit schedules, document objectives, and record outcomes.

Where in-person visits are not possible, even brief remote contact (a video call reviewing a recent case or discussing a checklist revision) can sustain the mentorship relationship.

When and how often: External mentorship visits are planned quarterly if feasible, with each visit lasting of 3-5 days. The first visit ideally is timed within the first three months after foundational training, when staff motivation is high, but confidence is fragile. Subsequent visits can be spaced further apart as internal capacity strengthens. Internal mentorship is continuous and embedded in daily ward activity.

What to look for: Signs that mentorship is working include staff who proactively invite the mentor to observe procedures, who bring written debrief notes to mentor discussions, and who begin to mentor each other informally.

A concern is when staff delay all VAB decisions to the visiting mentor rather than growing in independent judgement, unreported/documented VABs, abandoned implementation (VABs and simulations), this signals that coaching should shift toward supporting independent decision-making.

Resources:

[Attachment 10: Mentorship Visit Checklist \(SBBC\).](#)

[Mentorship Tool Kit: Supporting Mentors and Mentees \(PDF\)](#)

9

Evaluate and make improvements

Why it matters: Without systematic evaluation, implementation can stall or regress without anyone noticing. Systematic evaluation enables continuous improvement.

How to do it: Evaluation can be external or internal. The Safer Births Bundle of Care method offers external evaluation: Implementation experts make regular visits, observe using a checklist, meet with staff, discuss findings as well as improvements. The visiting Mentorship Checklist (Attachment 10), and Quarterly VAB Committee Review Meeting - Proposed Structure (Attachment 17) are the primary instruments for structured evaluation.

Professional organizations may use FIGO good practice recommendations as basis for evaluation.[2] Internal evaluation includes review by the Safe Vacuum Committee and may transfer to a QI initiative using the PDSA framework.

When and how often: Internal evaluation is recommended every month during the first year of implementation. External evaluation depends on availability and funding, but quarterly review is recommended. Evaluation may suggest improvements in training, SOP, local registry and focus areas for clinical mentorship visits.

What to look for: Successful evaluation has visible change (e.g., a training session redesigned in response to a gap identified in review (audit), a registry column added to capture data the committee did not initially track). A concern is evaluation data that is collected but never discussed, or audit findings that produce no observable action.

Resources:

[Attachment 10: Mentorship Visit Checklist \(SBBC\)](#)

[Attachment 17 - Quarterly VAB Committee Review Meeting - Proposed Structure](#)
and [FIGO good practice recommendations](#)





Celebrating more than 250 Safe Vacuum Assisted Births performed at the Haydom Lutheran Hospital, September 2025.

10 Create a Safe Vacuum Registry and celebrate success!

Why it matters: A local registry is the institutional memory that makes the implementation process measurable and sustainable. Without a record of every VAB case, the committee cannot conduct meaningful evaluations, identify trends in adverse events, demonstrate progress to management, or know when to celebrate.

How to do it: Many registry variables can be recorded as part of the clinical debrief, the rest is recorded as part of journal work.

At Haydom Lutheran Hospital, the team marked more than 250 vacuum-assisted births performed between 2022 and 2025 with a ward celebration. (See the moment photographed above shared to acknowledge what the team had built together.) A detailed case report documenting their complete journey—from baseline situational analysis to scaling VAB utilization from 0.04% to their target—can be found in Attachment 15.

When and how often: The registry begins on the day of the first clinical VAB. Milestones (10 cases, 100 cases, 250 cases, 500 cases) are worth marking explicitly rather than treating as routine.

What to look for: A healthy registry is complete: every VAB case has an entry; every entry has an outcome, and every outcome links to a debrief. Gaps in the registry (cases entered late, fields left blank; debrief forms missing) indicate that the process is not yet embedded in ward routine. A well-functioning celebration culture produces staff who remember specific cases and feel pride in the Safe Vacuum initiatives, not just staff who report numbers.

Resources:

[Attachment 12: Registry Data Points](#)

[Attachment 15: Case Report from Haydom Lutheran Hospital](#)

SUCCESS STORIES

Building Trust in VAB - A case from Mbulu District Council Hospital

"A 23-year-old woman from Harka arrived at 38 weeks of gestation, already fully dilated. She had been pushing at home without success and had a history of two previous cesarean sections. The team was fully aware of the increased risk of uterine rupture associated with labour after two previous cesarean sections. However, as labour was already far advanced, performing an emergency cesarean section at this stage would also have carried considerable risks for both mother and baby. After careful assessment, the team therefore decided to proceed with a vacuum-assisted birth.

The nurse on duty immediately called for assistance. The team mobilised, counselled the mother about the situation and the planned procedure, obtained her consent, and prepared the neonatal resuscitation area as a precaution. The vacuum-assisted birth proceeded smoothly, and the baby had Apgar scores of 9 out of 10 at both one and five minutes. Both mother and baby were stable afterwards.

None of this would have been possible without the hospital's support. The hospital leadership helped us procure the necessary equipment and establish a dedicated learning corner for simulation and skills practice. Through SBBC and low-dose, high-frequency (LDHF) simulation training, our staff have built confidence, addressed previous misconceptions, and strengthened their clinical skills. As a result, even our newest staff members are now able to perform VAB under appropriate supervision."

Story shared by the VAB team from the Mbulu District Council Hospital



Sustainability Considerations

Sustaining a Safe Vacuum requires more than a one-time investment in training and equipment; it requires a bundled approach in which the ten clinical components and the ten implementation actions are maintained together, because each element depends on the others to function. Normalizing VAB practice and shifting clinical attitudes takes years, as staff rotation means that earned experience and competency are continuously being rebuilt.

Facility leadership, the senior management, sets the conditions that make this possible: protecting simulation time, resourcing equipment, formally recognizing Local Champions, and signaling to the whole institution that Safe Vacuum is a priority, not a personal project. If the bundle holds, Safe Vacuum shifts from a project to part of how the ward works. Senior midwives are the most important change agents for this transition, shaping ward norms through daily examples in ways no document can replicate.

Bundling implementation with local research, as demonstrated by the Safer Births Bundle of Care and the work of midwife-researchers at HLH, adds a further accelerator; staff who become investigators or

co-authors develop a professional identity as Safe Vacuum practitioners that outlasts any single training intervention. CPD integration via TAMA, AGOTA, or national institutions offers a formal incentive model that supports motivation.

For a VAB programme to remain active beyond the initial implementation phase, two different forms of leadership must both be present. **Facility leadership** (Ward In-charge, Matron, Medical Officer In-charge, District Medical Officer, District Reproductive Health Coordinator, Regional Reproductive Health Coordinator and Regional Medical Officer) that creates the institutional conditions for sustainability.

They are protecting time in the ward schedule for simulation sessions, allocating and maintaining equipment budget as a recurrent cost, formally designating the Learning Corner space, and communicating to all staff that Safe Vacuum is an institutional priority. Without this visible, the programme depends on the goodwill of individuals and will fade when those individuals are rotated.

Sustainability Considerations cont.

The Safe Vacuum Committee provides the operational accountability that facility leadership alone cannot deliver. They meet regularly, maintaining the registry, reviewing outcome data, planning simulation and training activities, and owning quality improvement activities. The Committee's strength is its clinical embeddedness. It is the group closest to what is happening in the ward, while facility leadership's strength is its institutional authority to protect the conditions the Committee needs to function. Both are necessary.

Internal training capacity is another aspect that ensures sustainability. Programmes that rely permanently on external facilitators to deliver simulation sessions or onboard new staff are inherently fragile, and the Training of Trainers programme and Local Champion model exist specifically to transfer this capacity inward so that once two or three champions can facilitate independently, the programme is no longer vulnerable to external scheduling.

Establishing a learning culture where bi-weekly simulations, clinical debriefs after every VAB, and

monthly case reviews are not optional, they are the mechanisms by which skill is maintained between cases and between mentorship visits, and any facility that treats the three-day foundational course as the programme rather than its starting point will see skills decline within months.

A culture of conducting continuous quality improvement (CQI) meetings to address success and challenges builds team work while it ensures the ward maintains quality of care and services. This further abolishes blame and shame culture as challenges are not addressed to a person rather than a ward/team challenge. The CQI meetings enable the team to plan simulations that are focused on data and needs.

The proposed structure's agenda ([Attachment 17](#)), which includes reviewing previous action points, maternal and neonatal outcomes, and "Limitation/Challenges", serves as a practical tool for these essential CQI and sustainability meetings.





How to Mitigate Known Barriers

The following barriers have been observed and reported when reintroducing vacuum assisted birth. Each has a specific mitigation within the Safe Vacuum model.

Staff rotation:

In many facilities, trained staff are rotated to other departments or transferred within months of completing foundational training.

Mitigation: On board every new ward staff member through the Learning Corner and the next scheduled simulation session. Link training records to CPD points so completion is formally recognized. Ensure that at least two Local Champions are always retained in labor ward for daily mentorship and sustainability.

Fear and clinical hesitancy:

Fear of neonatal injury, of procedure failure, and of professional accountability is the most cited barrier to VAB practice. It does not disappear after training, it eases through experience, mentorship, and a ward culture in which difficult cases are debriefed rather than suppressed.

Mitigation: Every VAB, successful or not, is debriefed. Involve pediatricians, make simulation scenarios that include procedural failures as part of regular practice.

Equipment failure and missing parts:

Broken pumps, degraded cups, and missing components are a common cause of VAB abandonment.

Mitigation: Assign equipment responsibility to a named person; conduct weekly equipment checks as a standing task; maintain a minimum stock of two complete sets (one training, one clinical); include equipment budget in the annual facility plan, not as a project cost.

Preference for caesarean section:

Where CS is perceived as a safer or more prestigious option, VAB will face institutional resistance that training alone cannot overcome.

Mitigation: Begin advocacy early (Action 3). Engage clinical leadership. Use the baseline survey to surface and address specific misconceptions. Present evidence on maternal mortality and complication rates in terms relevant to the local context.

THE SAFE VACUUM LEARNING SOLUTION



*The Safe Vacuum Learning Solution is built on a **Circle of Learning (CoL)** framework, a model of continuous, gradual improvement in which clinical competence is built through subsequent cycles of knowledge, practice, mentorship, and reflection. Unlike a one-off training event, the Circle of Learning is designed to repeat and deepen over time, accommodating new staff, evolving clinical evidence, and the lessons drawn from each VAB case performed on the ward.*

Learning is structured around five competency modalities that move progressively from foundational knowledge through hands-on skill, team simulation, clinical mentorship, and finally the ability to learn systematically from outcomes data. These five modalities map directly onto the three implementation phases described in this chapter.

Local Champions (midwives, doctors, or clinical officers) identified by the Safe Vacuum Committee, serve as the central facilitators of learning at each stage, providing the continuity that sustains the programme between external mentorship visits.

The three phases are designed to follow one another in sequence for a new implementation, but they are not rigid. A facility reintroducing VAB after a period of low practice may find that some staff are already at Phase 2 competency while others need to begin at Phase 1. The Local Champion's role includes assessing where each staff member is within the learning journey and guiding accordingly.

Competency Modalities and Educational Activities for Safe Vacuum

Each modality represents a distinct level of observable competence. A provider progresses through them in order, though the boundaries are not sharp elements of simulation and mentorship, for example, continue throughout the learning journey even after a provider has moved beyond foundational training.

1. Knowledge Acquisition:

Foundational skills

Method: Facilitated three-day HMBS foundational course covering Essential Care for Labor and Birth (ECLB), Prolonged and Obstructed Labor (POL), and Vacuum-Assisted Birth (VAB), both theory and hands-on delivered by experienced practitioners with both theoretical and hands-on practical components. Proper review of SOP and Checklist with all.

Staff can: Follow SOP and Checklist. Identify VAB indications and contraindications, perform essential maternal and fetal assessments, and demonstrate basic vacuum extraction technique on the simulator, while maintaining standards of respectful maternity care.

2. Skills Proficiency:

Procedural skills and basic decision-making

Method: Low-dose, high-frequency Independent practice at a dedicated *Learning Corner* equipped with the *MamaBirthie* simulator and vacuum extractor, using the following VAB SOP checklist and a Respectful Maternity Care (RMC) checklist to guide.

Staff can: Demonstrate correct cup placement and removal, apply appropriate traction technique, use the VAB and RMC checklists independently, and make introductory decisions about patient suitability from a clinical scenario.

3. Simulation in Teams:

Acute Situational skills and critical thinking

Method: Bi-weekly in-situ team simulation sessions facilitated by Local Champions, using SimBegin methodology and VAB scenario cards. Sessions include communication drills, emergency response planning, and role rotation so that all staff experience each position within the VAB team.

Staff can: Demonstrate advanced decision-making in time-critical VAB scenarios, apply closed-loop communication, apply the VAB and RMC checklists, take clear leadership or supporting roles as required, and respond appropriately to dynamic changes in the clinical conditions. Reflect on key learning moments in applied debriefing practice.

4. Clinical Mentorship:

Confidence-building and complex decision-making in practice

Method: Scheduled external mentorship visits by experienced VAB practitioners, combined with ongoing internal mentorship by Local Champions during clinical shifts. Mentors provide real-time coaching during live VAB cases, immediate debriefing, and structured case reviews.

Staff can: Demonstrate leadership and confident decision-making during actual VAB procedures, apply lessons from simulation to real clinical conditions, cope with time pressure and stress, and support less experienced colleagues.

5. Reporting and Learning from Success:

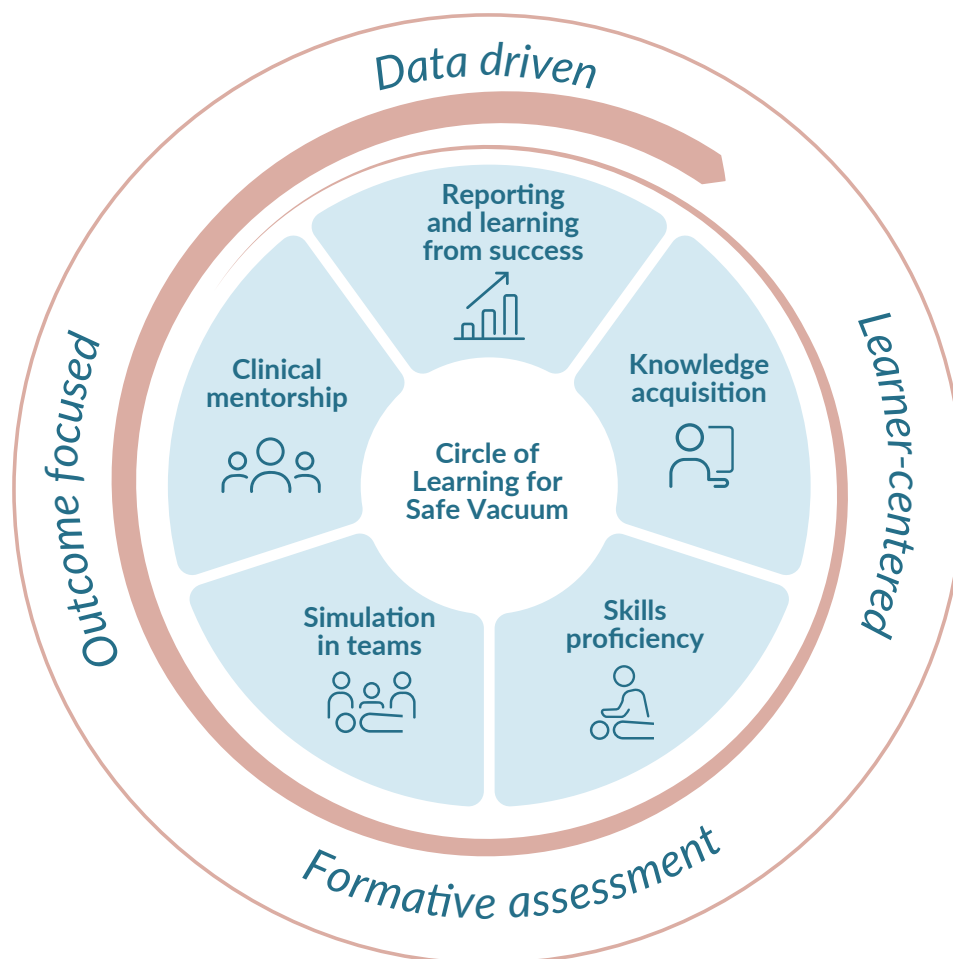
Learning analytics and quality improvement

Method: Structured clinical debriefs after every VAB case, feeding data into the Safe Vacuum Registry. Quarterly committee-led data reviews.

Staff can: Analyze VAB outcome trends, identify training and practice gaps from registry data, implement specific improvements to SOP, checklist, or simulation content (scenarios), and share learning with colleagues and the wider Safe Vacuum network.

Below is a list of recommended tools, methods, and services for each of the competency modalities for Safe Vacuum.

- Knowledge acquisition using [HMBS](#) materials in facilitator-led workshop sessions
- Skill proficiency using [MamaBirthie](#) manikin, delivery equipment and [Medela](#) vacuum extractor
- Simulation in teams supported by [SimBegin](#) methodology and VAB scenarios
- Clinical mentorship included in a **Safe Vacuum ToT**
- Reporting and learning from success supported by clinical data reporting and case reviews.



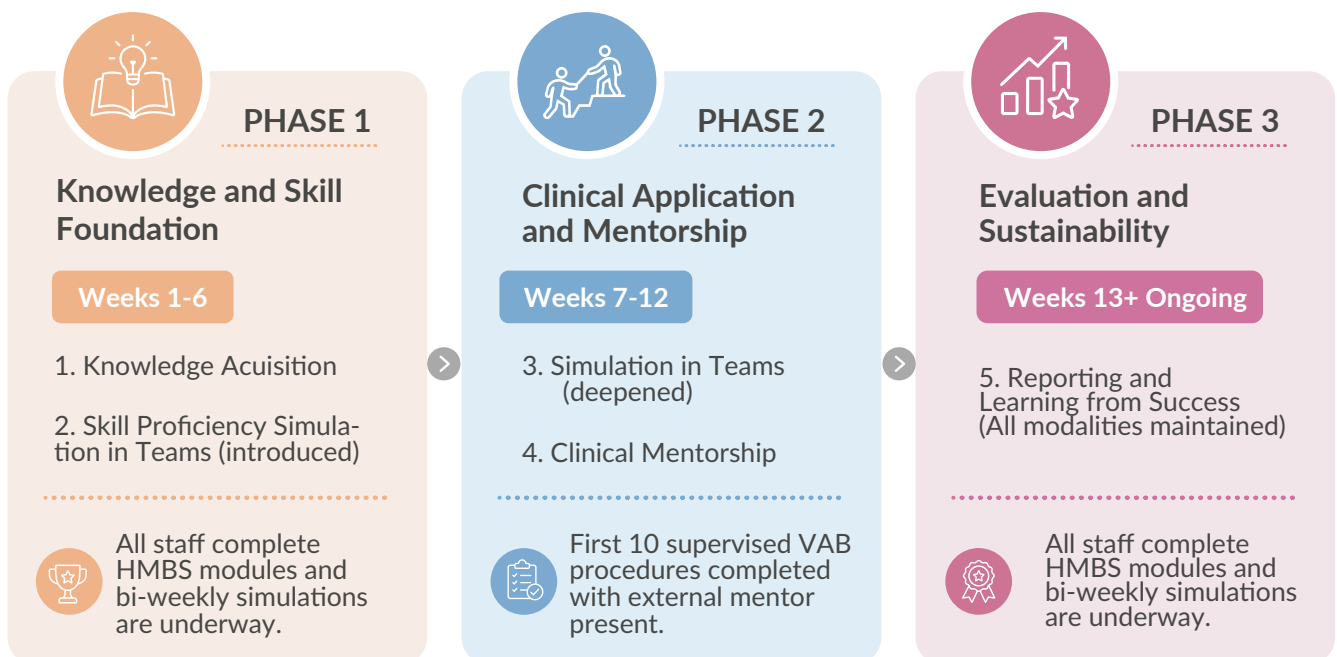
Graph 1: Competency modalities of Safe Vacuum

Learning Journey Roadmap

The Safe Vacuum learning journey serves as an orientation, ensuring every new midwife, doctor, or clinical officer progresses from novice to Safe Vacuum-ready in a supported and structured way. It integrates knowledge, skills, behaviours, and clinical judgement across all five competency modalities of the Circle of Learning.

The table below shows how the five modalities are distributed across the three implementation phases, forming the roadmap for anyone starting the Safe Vacuum learning journey.

Phases 1 and 2 run for approximately six weeks each and represent the intensive period of establishing the programme; Phase 3 is ongoing and marks the transition to a self-sustaining practice culture led by Local Champions and supported by wider Safe Vacuum Network.



Phase 1: Knowledge and Skill Foundation

Objective: Build foundational VAB knowledge and hands-on skills for all maternity staff through structured training and regular practice and establish the physical and organizational infrastructure that will support ongoing learning.

Week 1: Launch and first simulation

Begin with a practical demonstration rather than an explanatory lecture. The approach adopted at Haydom Lutheran Hospital illustrates the effectiveness of introducing Safe Vacuum to staff by conducting an initial team simulation within the maternity ward, using the MamaBirthe simulator and vacuum extractor.

During this session, the lead provider demonstrates the procedure and explains the key Safe Vacuum components while all staff observe. This method serves to familiarize personnel with the equipment, exemplify the collaborative teamwork necessary for Safe Vacuum, and emphasize that the program is grounded in practical application rather than theoretical instruction.

- Hold opening team simulation demonstration in maternity ward.
- Introduce Safe Vacuum initiative to all staff and management through a demonstration.
- Set up the Learning Corner with MamaBirthe and vacuum equipment.
- Confirm that laminated SOP and VAB checklist are displayed in all delivery rooms.

HOW-TO: Set Up Your Learning Corner

The Learning Corner is a dedicated, always-available practice station at the maternity ward where staff can train independently or in pairs at any time between shifts, during quiet periods, or as part of a scheduled session. It does not require a separate room.

Essential equipment:

- MamaBirthe birthing simulator on a table (stable surface)
- Vacuum extractor with manual pump
- Laminated VAB Checklist and Jhpigo [VAB action plan](#) Respectful Maternity Care (RMC) checklist

Weeks 2–3: Foundational training

The three-day Helping Mothers and Babies Survive (HMBS) foundational course is the backbone of Phase 1.

It includes all three sequential modules: Essential Care for Labor and Birth (ECLB) on Day 1, Prolonged and Obstructed Labor (POL) on Day 2, and Vacuum-Assisted Birth (VAB) on Day 3, because each builds directly on the last. All maternity ward staff should attend.

The nurse/midwife who will support the perineum, the nurse/midwife who will monitor fetal heart rate while communicating with the mother, and the ward assistant who will operate the pump and read from the Checklist all have defined roles in the VAB team and must understand the procedure well enough to perform them safely and to recognize when something is wrong.

- Day 1: Essential Care for Labor and Birth (ECLB)
- Day 2: Prolonged and Obstructed Labor (POL)
- Day 3: Vacuum-Assisted Birth (VAB) minimum half the day hands-on with simulator
- Cover indications, contraindications, procedure steps, and when to stop and proceed to C-section
- Record attendance

HOW-TO: Deliver the 3-Day HMBS Course

The three modules should be delivered in sequence on three consecutive days rather than in isolation or reordered. The [Helping Mothers and Babies Survive](#) training programs summary:

Day 1: Essential Care for Labor and Birth (ECLB)

Respectful maternity care, normal labour assessment, monitoring mother and baby, pain management, preparing the team for a safe birth environment.

Day 2: Prolonged and Obstructed Labor (POL)

Recognizing prolonged second stage, the assessment framework (Patient, Passenger, Power, Passage), indications for intervention, decision-making pathways, and referral criteria. →

Day 3: Vacuum-Assisted Birth (VAB)

Indications and contraindications, team roles and communication, equipment assembly and testing, cup placement and traction technique on MamaBirthie simulator, recognizing and managing complications, when to stop and proceed to C-section, post-procedure documentation.

Resource:

[Attachment 11: Prioritized Summary of Jhpiego HMBS Course](#)

Weeks 4–6: Skill reinforcement and simulation launch

Following foundational training, the priority shifts to retention and teamwork and communication. Individual skills decline rapidly without practice; the most effective antidote is low-dose, high-frequency repetition, short sessions distributed across weeks rather than a single long follow-up. At the same time, bi-weekly team simulations should begin, establishing a routine that will continue throughout the programme and are kept in a Training Log. Facilitators are identified and prepared from within the Safe Vacuum Committee.

- Schedule weekly 15-minute individual practice sessions at the Learning Corner
- Conduct bi-weekly VAB case reviews during morning handover report
- Begin bi-weekly 30-minute team simulation sessions
- Log all practice sessions ([See attachment 14 for example log from Haydom](#))

Champion Tip: Use the ‘low-dose, high-frequency’ principle from the first week onwards. A 15-minute practice session at the Learning Corner twice a week is more effective for skill retention than a single two-hour session. Build this into the ward schedule.



Phase 2: Clinical Application and Mentorship

Objective: Transition from simulation to supervised clinical practice, building team coordination and individual confidence through structured mentorship, in-situ simulation, and the first real VAB procedures on the ward.

Weeks 7 - 8: First clinical mentorship visit and initial VAB procedures

The first external mentorship visit is the bridge between simulated and real clinical practice.

The mentors arrive with a clear agenda agreed in advance with the Safe Vacuum Committee, access to the baseline data from Step 2 and any registry data from Phase 1 simulation sessions, and sufficient time on the ward (a minimum of three to five days) to be present during actual VAB cases.

The mentor's primary role in this visit is coaching, observing the team during live procedures, providing immediate feedback, and debriefing every case together with the team. The first few VAB cases under mentorship are as much about building the team's confidence and trust in the procedure as they are about technical skills. Mentorship allows the mentor to observe areas that need focus and training.

- Coordinate first external clinical mentorship visit (minimum 3–5 days on ward)
- Share data, baseline survey findings, and identified training priorities with mentor before arrival
- Inform the operating theatre team about potential VAB procedures during mentorship
- Conduct real-time coaching and immediate structured debrief after each VAB case
- Document all cases in the Safe Vacuum Registry using the clinical debrief template

Weeks 9 - 10: Team coordination and non-technical skills

Once staff have begun to develop individual technical fluency, the focus of team simulation sessions can shift to the non-technical skills that determine performance under real clinical pressure.

Communication, situational awareness, and shared decision-making are not instinctive under stress; they require deliberate, repeated practice in realistic scenarios. Role rotation during simulations is particularly important: a midwife who has only ever operated the pump will be a far less effective team member than one who has also played the role of lead operator and timekeeper, because she understands how her actions affect everyone else in the team.

- Deepen bi-weekly in-situ team simulations with focus on non-technical skills.
- Practice closed-loop communication and explicit role assignment.
- Run at least one scenario involving a failed VAB and the decision to proceed to C-section.
- Rotate team roles across sessions so all staff experience each position.
- Document session attendance, scenario used, and key learning points.

HOW-TO: Conduct Effective Team Simulations

Team simulations work best when they feel real enough to apply skills and genuine decision-making, but safe enough for participants to make mistakes and learn from them. The 30-minute structure below is based on the SimBegin methodology used at Haydom Lutheran Hospital.

Structure (30 minutes):

Pre-brief (5 min): Review simulation rationale, equipment, learning objectives, assign roles, confirm psychological safety 'We are here to learn, not to judge.'

Scenario (10–12 min): Run a realistic VAB case using scenario cards; allow the team to work through their own decisions without interruption. →

Debrief (10–15 min): Structured discussion ‘What went well? What would we do differently?’ One specific improvement to carry forward.

Non-technical skills to practice across sessions:

- **Communication:** Respectful Maternity Care, Closed-loop confirmation, speaking up about concerns, clear handovers (SBAR).
- **Decision-making:** Recognizing indications, weighing risk/benefit, knowing when to stop.
- **Situational awareness:** Monitoring maternal and fetal status simultaneously, anticipating the next steps.
- **Leadership:** Delegating tasks clearly, maintaining team focus, managing time pressure.
- **Coping with stress:** Practice verbalizing uncertainty; practice asking for help.

Resource:

Attachment 13: Scenario Cards

Champion Tip: Run at least one failed VAB scenario. Teams that have never rehearsed the decision to stop and proceed to C-section will hesitate longer when it matters clinically. Rehearsing the transition makes it faster and calmer in practice.

Weeks 11–12: Building confidence and preparing for Phase 3

By the end of Phase 2, the ward has completed between five and ten supervised VAB procedures with good outcomes, regular (bi-weekly) simulations should be running reliably, and the Safe Vacuum Registry should contain meaningful data. The Safe Vacuum Committee can use this period to identify which staff members are ready for independent practice, which individuals show the interest and capacity to develop into Local Champions.

- Aim for 5–10 supervised VAB procedures completed by end of Week 12
- Identify staff ready for independent clinical practice
- Identify 1–2 individuals with potential to develop as Local Champions
- Schedule second external mentorship visit
- Review outcome data and identify priority training areas

SUCCESS STORIES

Safe VAB after Previous Cesareans

“A 26-year-old woman from Gehandu, at 41 weeks of gestation, had a history of two previous cesarean sections and one vaginal birth. She was fully dilated but had made no further progress in the second stage of labour for almost 50 minutes. With meconium-stained amniotic fluid, the team immediately called for assistance.

The mother was frightened, and some members of the team were concerned as well. The team carefully assessed the situation, counselled her about the procedure and the potential risks, obtained her consent, and prepared a backup plan in case complications arose.

The vacuum-assisted birth proceeded successfully. Her baby weighed 3.4 kg and had an Apgar score of 9 out of 10. The mother sustained no perineal tears or significant bleeding, and both mother and baby were stable afterwards. In this carefully assessed situation, vacuum-assisted birth provided a safe alternative to another cesarean section, despite her history of two previous cesarean births.”

Story shared by the VAB team from the Tumaini District Hospital



Phase 3: Evaluation and Sustainability

Objective: Establish self-sustaining practice led by Local Champions, with regular data review, continuous training for new staff, and formal evaluation that translate into ongoing improvement.

Ongoing activities

Phase 3 is not a conclusion; it is the steady practice that the Safe Vacuum programme is designed to reach and then maintain continuously. The external support structures of Phases 1 and 2 do not disappear; they become less frequent as internal capacity grows. The Safe Vacuum Committee continues to meet on a regular basis, leading monthly team simulations, and conducting debriefs after every VAB. The key difference in Phase 3 is that these activities are led from within the facility by Local Champions rather than depending on external mentors or facilitation.

- **Monthly case reviews** where the VAB Committee analyses registry data, identifies trends, and celebrates specific successes with the ward team.
- **Continuous bi-weekly team simulations** continue without interruption; new staff are onboarded through the next scheduled session and directed at web resources.
- **External mentorship** where the visits are coordinated more frequently in the first year and reduced as Local Champion capacity matures.
- **The Safe Vacuum Community of Practice** holds regular gatherings for members to share experiences, engage in peer learning, and celebrate ward-level outcomes.

Rotational Onboarding

Staff rotation is a predictable threat to VAB programme sustainability in Tanzanian facilities. Phase 3 sustainability depends on a standing protocol for onboarding new arrivals quickly, not waiting for the next scheduled foundational training group.

The Fast-Track Onboarding Journey (to be completed within 2 weeks of arrival):

Day 1–2: Self-directed orientation at the Learning Corner. The Local Champion gives a 20-minute guided introduction to the MamaBirthe simulator, a vacuum device and the VAB checklist. No time pressure - this is orientation, not assessment.

Day 3–5: The new staff member attends the next bi-weekly simulation session as a full participant (not an observer). They are assigned a supporting role (FHR monitor or perineum support or reading from the Checklist), not the lead operator role, unless they have prior VAB experience. Within first weeks: New staff attend HMBS foundational training.

Week 2: The Local Champion conducts a brief (15-minute) individual skills assessment at the Learning Corner: Cup placement, pump operation, checklist navigation. This is formative, not judgmental, the goal is to identify what the new arrival needs most, not to grade them.

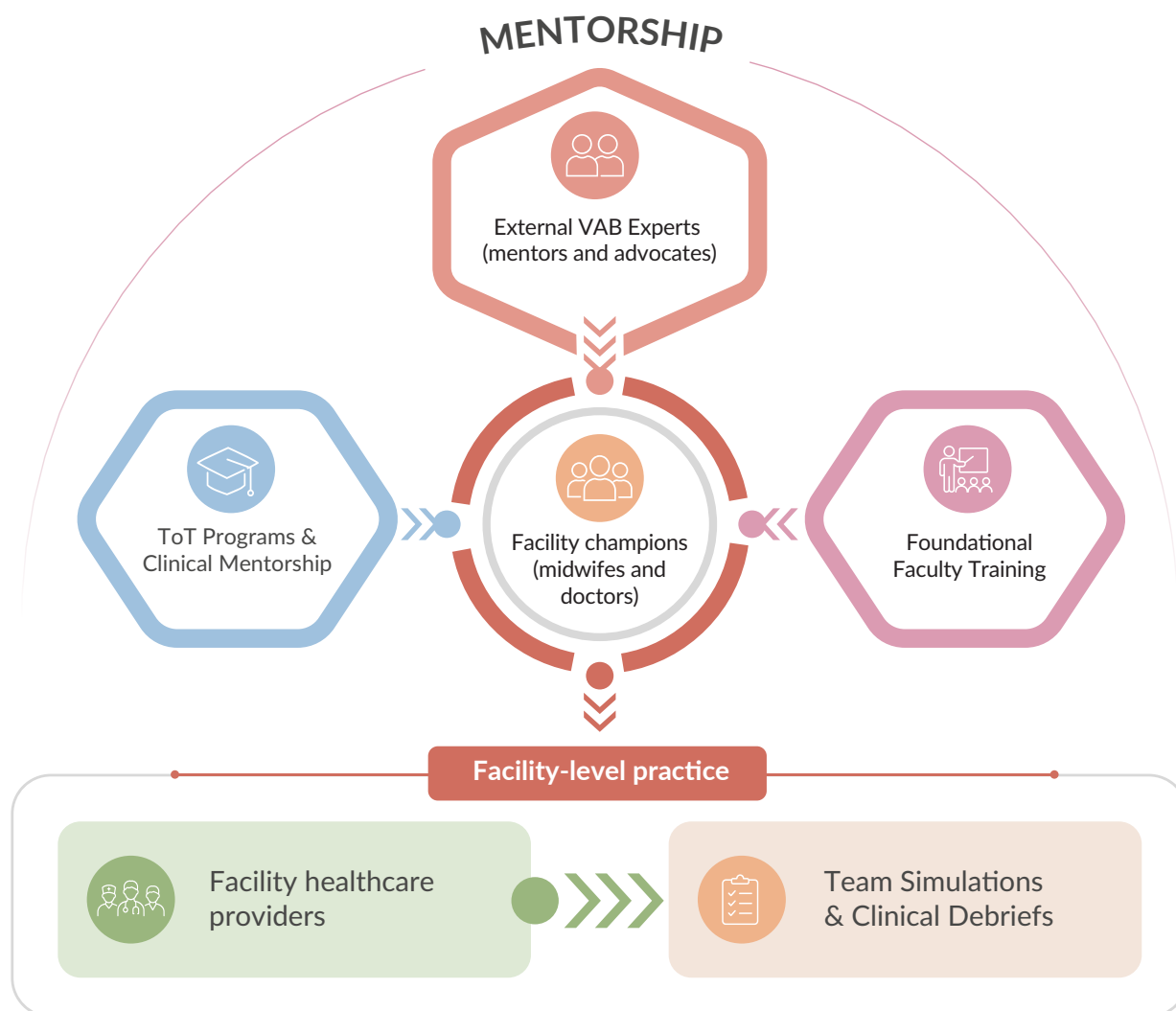
Before the first clinical VAB: The new staff member must have completed at least one or two simulation sessions. They may assist (not lead) in a clinical VAB under a senior team member within their first month.

The Local Champion maintains a simple onboarding log (name, arrival date, simulations attended, first clinical VAB date).

Cascade Model for Training

The Safe Vacuum Training of Trainers (ToT) course operationalizes the transition from external to internal capacity. It uses a cascade model in which external VAB experts first deliver the foundational HMBS programme to the facility, then equip identified Local Champions with the facilitation skills, simulation methodology, and clinical mentorship approach needed to deliver the same programme to their own colleagues, and to onboard every new staff member who joins the ward thereafter.

The training of trainers has three parts. **Part 1** covers onboarding: experts deliver the three-day HMBS course, establish/ strengthen the Learning Corner, introduce SimBegin simulation methodology, and begin the first external mentorship cycle. **Part 2** strengthens internal capacity: the ToT programme equips Local Champions to facilitate team simulations independently, structure clinical debriefs; use ToT resources to plan and conduct internal mentorship activities and evaluate outcomes using the Safe Vacuum Registry.



Training Cascade Model

Once **Part 2** is complete, the facility is equipped to sustain the Circle of Learning and all five competency modalities without dependency on external facilitation, relying on external mentorship visits for quality assurance. **Part 3** is the sustainability part, where experience is shared among ToT participants who form a "Community of Practice".



ToT part II, Haydom, October 2025

Local Champions: Selection, Role, and Sustainability

Local Champions form the infrastructure that makes the programme sustainable. They are the individuals who combine clinical credibility with a commitment to teaching, the patience to support colleagues who are afraid, and the organizational motivation to keep sessions running when competing ward pressures make it tempting to cancel. They may be identified early in Phase 1 and are formally recognized and supported by the Safe Vacuum Committee and facility management.

Selection criteria: Interest in VAB; good communication and peer-teaching skills; respected by colleagues; likely to remain at the facility for the foreseeable future; willing to commit protected time to training activities.

Champion responsibilities: Facilitate bi-weekly team simulations using SimBegin methodology; onboard new staff through the Learning Corner and foundational training cycle; provide informal mentorship and encouragement to less experienced colleagues during clinical shifts; maintain the Learning Corner and ensure equipment is functional and accessible; lead clinical debriefs after every VAB case and enter data into the registry; lead monthly case review presentations to the ward team.

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ATTACHMENTS

On the following pages you can find all the attachments previously listed in the document.

RESPECTFUL MATERNAL CARE CHECKLIST (FOR VAB)

During Labour & Birth

- Introduce yourself and your role clearly.
- Ask for consent before every procedure or exam.
- Allow a birth companion of choice and involve them where appropriate.
- Use open-ended questions to invite detailed responses.
- Avoid leading questions that push a “yes” answer.
- Speak in plain, simple language (no jargon).
- Be mindful of body language: open posture, eye contact, calm tone.
- Avoid rushing or showing irritation when asking if she has questions.
- Reassure continuously (“Your baby is safe, here’s what happens next”).
- Encourage mobility and preferred birthing position, unless unsafe.
- Never shout, scold, or use rough handling.

After Birth

- Debrief: explain what happened and why.
- Reassure about outcomes and newborn safety.
- Allow time for questions; answer patiently.
- Provide emotional support and validate her experience.
- Document care accurately and transparently.

Provider & System Responsibilities

- Provide timely care-reduce waiting times, respond quickly to needs.
- Share information respectfully in the team (no jargon over patient’s head).
- Ensure interpreters or culturally appropriate communication if needed.
- Protect confidentiality at all times.
- Create an environment where feedback is encouraged.
- Report and address disrespectful or abusive behavior when observed.

Indications for VAB include:

1. Prolonged second stage: In settings with pudendal analgesia: birth is not completed after >3 hours for primigravida and >2 hours for multipara. In settings without pudendal analgesia: birth is not completed after >2 hours for primigravida and >1 hour for multipara. If prolonged labor is the only indication for a VAB, rapidly assess the four "P"s (Patient-Passenger-Power-Passage) to identify the cause of prolonged labor and decide if VAB is the most appropriate intervention. The differential diagnosis of prolonged second stage is:

- Misdiagnosis of second stage
- CPD / obstruction
- Malposition/malpresentation
- Ineffective uterine contractions
- Maternal causes (e.g. anxiety/stress,
- Exhaustion, dehydration, ineffective
- Birthing position or technique, full bladder).

After the assessment, quickly decide what care she needs and on the mode of childbirth. More information about this topic can be found in the Provider guide of HMBS Prolonged & Obstructed Labor. [3]

2. Fetal distress in second stage: Listen to the FHR for a minimum of 1 minute. Listen during a contraction and continue for at least 30 seconds after the contraction. Or observe FHR continuously with the Moyo fetal heart rate monitor. Compare the FHR with the maternal heart rate, and consider making an ultrasound to confirm your findings.

- Signs of fetal distress are very slow fetal heart rate (<100 bpm) or rapid fetal heart rate (≥160 bpm) between contractions or persisting after contractions throughout at least three contractions.
- Fetal distress can be reversible or irreversible. A rapid comprehensive maternal and labour assessment could differentiate between the causes and facilitate further management and mode of delivery.
- Irreversible causes include uterine rupture, placental abruption and cord prolapse and require immediate termination of delivery. VAB can be considered if criteria are met and contraindications are ruled out otherwise emergency c-section should be performed.
- Reversible causes include hypotension, uterine hyperstimulation, dehydration. FHR can improve after appropriate actions are taken such as

intravenous fluid infusion, changing position, giving oxygen or stopping oxytocin in case of augmentation. It is important to reassess the FHR, the mother and progress of labour. Immediate termination of delivery is often not needed.

- The WHO provides algorithms for monitoring and managing fetal heart rate bradycardia, late decelerations and tachycardia during labour in low-risk pregnant women in labour with singleton cephalic term pregnancies [14].

3. Maternal exhaustion in the second stage.

4. Maternal conditions that require a shortened second stage or when strong pushing is contra-indicated, including severe anaemia, cerebral vascular diseases, cardiac diseases like severe heart failure and severe pulmonary diseases.

NOTE:

The last indication conditions should have been identified prior to the second stage of labour. A vacuum cup can be applied if the criteria for VAB are met and all contraindications for a VAB have been ruled out.

The following are relative contraindications for VAB and may require c-section:

- GA < 34 weeks or unsure GA
- Baby is <2500g or >4000g or unsure
- There are signs of CPD / Obstruction: Vulvar / cervical edema and/or presence of Bandl's ring with empty bladder and/or secondary arrest of descent / no descent with at least 3 contractions/10 minutes, each lasting at least 40 seconds and/or 3+ caput and/or 3+ molding
- There is a malpresentation / malposition that requires a cesarean birth (chinposterior position; transverse lie; shoulder, brow, footling breech, or arm presentation; complete or frank breech with a poorly flexed fetal head)
- Non-cephalic presentation
- Non-occiput position
- Head unengaged (descent 3-5/5 palpable above the upper level of the pubic symphysis / -1 to -4 station)
- Above the upper level of the pubic
- Symphysis / -1 to -4 station)

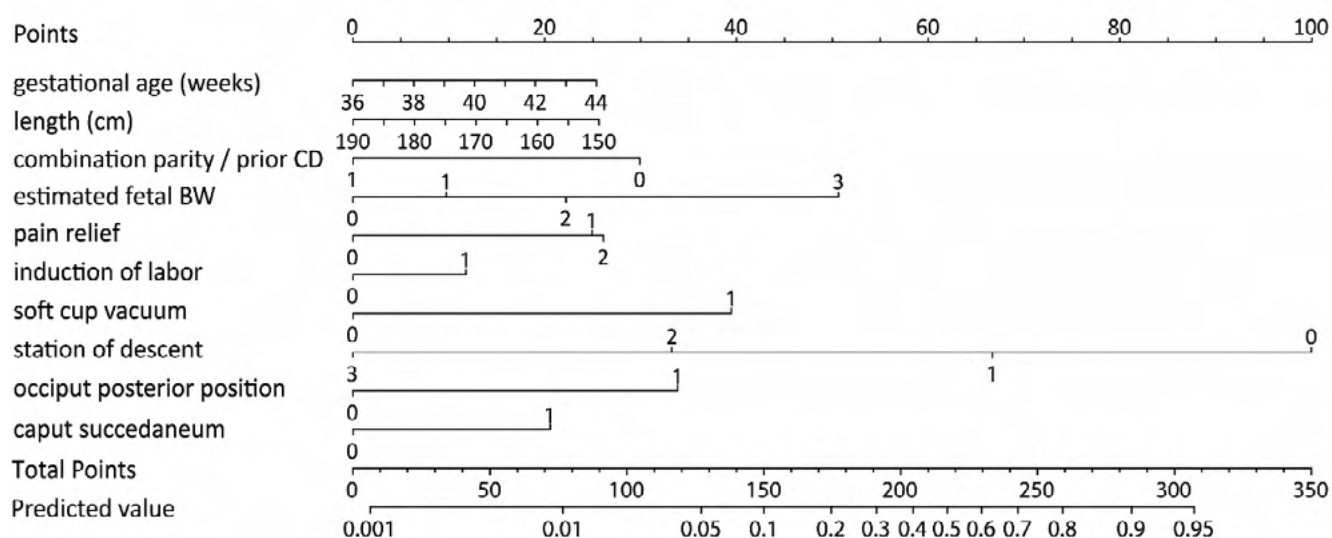


Fig. 3. Nomogram

Fig. 3. Nomogram.

Label: As an example, a 175 cm tall nulliparous woman, 37 weeks pregnant of a child with EFW above 3750 g, no pain relief, no indication for vacuum assisted delivery failure to progress, no Malmström m cup usage, no descent of the fetal head, occiput posterior position and no presence of caput succedaneum has a risk of vacuum-assisted delivery that is equal to $1/(1 + \exp(1 * (-2.60 + 0.104 * 37 + 0.0210 * 175 + 0.981 * 0 + 0.255 * 0 + 0.317 * 0 + 0.729 * 0 + 1.66 * 1 + 0.816 * 0 + 0.855 * 0 + 0.384 * 0 + 1.29 * 0 + 1.09 * 0 + 1.11 * 1 + 0.674 * 0))) = 58\%$.

A similar chance can be found when the nomogram is used: we get 3 points for gestational age of 37 weeks, 9 points for the height of 175 cm, 30 points for being nulliparous, 50 points for an EFW above 3750 g, 100 points for no descent of the fetal head, 34 points for the occiput posterior position, and 0 points for the other characteristics, which adds up to a total of 226 points, corresponding to a predicted risk of failure of vacuum-assisted delivery of approximately 58%.

Reference: Verhoeven CJ, Nuij C, Janssen-Rolf CRM, Schuit E, Bais JMJ, Oei SG, et al. Predictors for failure of vacuum-assisted vaginal delivery: a case-control study. *European Journal of Obstetrics & Gynecology and Reproductive Biology*. 2016 May;200:29–34. doi:10.1016/j.ejogrb.2016.02.008

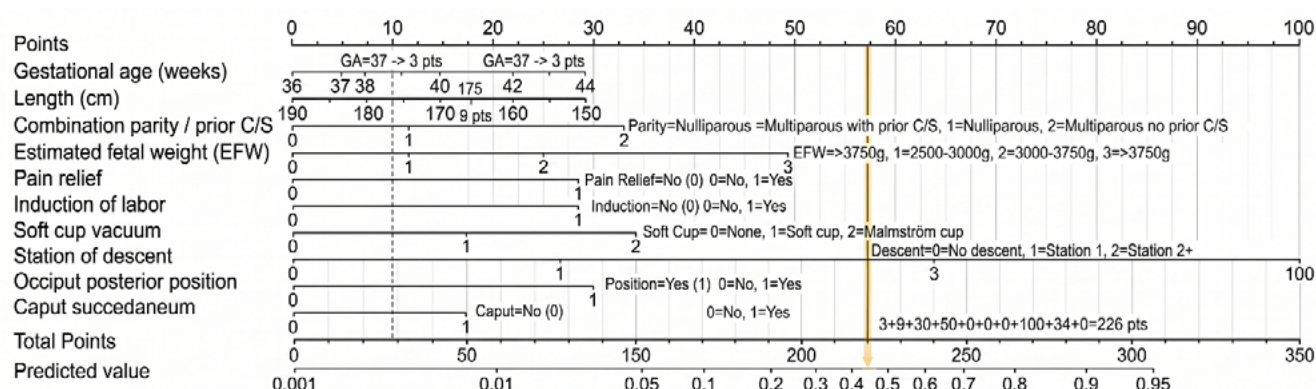


Fig. 3. Nomogram and Calculation Example.

A clear illustration of the sum calculation from the example: $[GA(3 \text{ pts}) + \text{Height}(9 \text{ pts}) + \text{Nulliparous}(30 \text{ pts}) + \text{EFW}(50 \text{ pts}) + \text{Descent-No}(100 \text{ pts}) + \text{Position-OccPosterior}(34 \text{ pts})] = 226 \text{ Points}$. Example: a 175 cm tall nulliparous woman, 37 weeks pregnant of a child with EFW above 3750 g, no pain relief, no indication for vacuum-assisted delivery failure to progress, no Malmström cup usage, no descent of the fetal head, occiput posterior position and no presence of caput succedaneum has a risk of vacuum-assisted delivery failure that is equal to $1/(1 + \exp(-2.60 + 0.104 * 37 + 0.0210 * 175 + 0.981 * 0 + 0.255 * 0 + 0.317 * 0 + 0.729 * 0 + 1.66 * 1 + 0.816 * 0 + 0.855 * 0 + 0.384 * 0 + 1.29 * 0 + 1.09 * 0 + 1.11 * 1 + 0.674 * 0))) = 58\%$. Similar chance can be found when the nomogram is used: we get 3 points for gestational age of 37 weeks, 9 points for the height of 175 cm, 30 points for being nulliparous, 50 points for an EFW above 3750 g, 100 points for no descent of fetal head, 34 points for the occiput posterior position, and 0 points for the other characteristics, which adds up to a total of 226 points, corresponding to a predicted risk of failure of vacuum-assisted delivery of approximately 58%.

HAYDOM LUTHERAN HOSPITAL | DEPARTMENT OF OB/GY

Standard operating procedure for safe vacuum extraction (VE) births

Purpose

The purpose of this document is to ensure safe VE births at HLH. The document will enable its users to adhere to best practices and consistency during VE.

Roles and Responsibilities

VE at HLH is conducted by **trained doctors** (obstetricians and registrars) and **senior midwives** and supported by junior midwives and medical attendants working in the labor ward. **Teamwork is essential for the success of VE**

Resources

- Functioning VE equipment should always be ready
- The theatre team should be kept alert for possible C/Section if VE fails
- A newborn resuscitation kit should be prepared
- Suturing kit should be ready for possible tears/ episiotomy
- Infection prevention and control guidelines should be followed

Indications

- Prolonged second stage: >3hrs for prime and 2hrs for multipara
- Fetal distress in second stage
- Maternal exhaustion in second stage
- Mothers with medical conditions in pregnancy at the second stage: heart failure, severe anemia, asthma

Prerequisites

These are the minimum criteria that need to be fulfilled in order to perform VE:

- Cervix fully dilated
- Descent: 2/5, 1/5, 0/5 or stations 0, +1, +2
- Empty bladder
- Contractions: 3 or more in 10 minutes, if not, augment with oxytocin
- Gestational age: > 34 weeks
- Estimated fetal weight: >2.5kg to < 4.0kg

Precautions

The team needs to weigh the risks and benefits associated with VE before embarking on the procedure

Procedure

a) Getting ready

1. Prepare the necessary equipment and make sure assistants are available – **preferably 4 people**.
2. Obtain oral consent and provide continual emotional support and reassurance, as feasible.
3. Review to ensure that the indications and prerequisites for vacuum extraction are present, and any contraindication is excluded.
4. Put on personal protective gears.

b) Pre-procedure tasks

1. Wash hands thoroughly with soap and water and dry.
2. Put sterile surgical gloves on both hands.
3. Clean the vulva with an antiseptic solution (non-alcoholic) and place a drape under the woman's buttocks and over her abdomen.
4. Catheterize the bladder, if necessary.
5. Check all connections on the vacuum extractor and test the vacuum on a gloved hand

c) Vacuum extraction steps

1. Assess the station and position of the fetal head by feeling the sagittal suture line and fontanelles.
2. Identify the posterior fontanelle.
3. Apply the chosen cup often 50mm size (medium), with the center of the cup over the flexion point, 3 cm anterior to the posterior fontanelle if possible.
4. Check the application and ensure that there is no maternal soft tissue (cervix or vagina) within the rim of the cup.
5. Have the assistant create a vacuum of 0.2 kg/cm² negative pressure with the pump and check the application of the cup if any tissue is trapped, release the pressure and restart.
6. Increase the vacuum to 0.8 kg/cm² negative pressure and check the application of the cup.
7. After maximum negative pressure has been applied, start traction in the line of the pelvic axis and perpendicular to the cup.

8. With each contraction, apply traction in a line perpendicular to the plane of the cup rim: Place a gloved finger on the scalp next to the cup during traction to assess potential slippage and descent of the vertex.
9. Between each contraction have an assistant check: Fetal heart rate.
10. With progress, continue the “guiding” pulls for a maximum of 15 minutes.
11. When the head stretches the perineum, assess whether an episiotomy might be indicated, especially in a nulliparous woman.
12. If the cap pops off 3 times during the procedure stop the procedure and move on to c-section to deliver the baby.
13. When the head has been delivered, release the vacuum, remove the cup and complete the delivery as in assisting a normal birth including active management of the third stage of labor.
14. Carefully check the birth canal for any tears following delivery.
15. Repair any episiotomy or tears as per guidelines.
16. Provide immediate postpartum and newborn care.

d) Post-procedure tasks

1. Before removing gloves, dispose of waste materials in a leak-proof container or plastic bag.
2. Place instruments in 0.5% chlorine solution for 10 minutes for decontamination.
3. Remove gloves by turning them inside out and placing them in a leak-proof container or plastic bag.
4. Wash hands thoroughly with soap and water and dry.
5. Document the procedure – descent, position, numbers of pulls, no. pop-offs, episiotomy, oxytocin dose used.
6. If the vacuum failed, write down the possible reason.
7. Have a short debrief talk with all the team members after VE.

Prepared October 2022

VACUUM EXTRACTION CHECKLIST

Check the pressure of the vacuum equipment

Presentation of the present staff and their different tasks (Who is doing what?)

Indication of the procedure

Information to the patient about the procedure including consent

Is the descent 2/5 or below?

Is the urinary bladder emptied?

Does the patient have an intravenous needle?

Who is continuously checking fetal heart beats?

Oxytocin augmentation?

Plan for prevention of perineal tears? Episiotomy?

Risk and plan for complications and failed vacuum (Is the anesthesiologist informed?)

Reminders

Ask the operator if the head is coming down after every pull:

If not, check for - direction of pull, oxytocin titration, mother pushing

After third pull, checklist guider declares loudly " this was pull no 3" .

After 3 pulls the head must be at 0 descent (almost out).

C hecklist guider declares loudly when 15 min have passed.

If two pop-offs, >3 pulls or if the baby isn't born after 15 minutes, change to Cesarean section.

Before going for c/section at second stage, consider vacuum by checking:

Is the gestational age at least 34 weeks?

Is the descent at 2/5 or lower?

Do we have uterine contractions?

Is the mother able to push?

Is there contraindication to vacuum?

TEMPLATE DEBRIEFING ASSISTED BIRTH HAYDOM LUTHERAN HOSPITAL

Patient reg. No: _____ Admission date: _____ GA: _____

Name: _____ Village: _____ TCL/Balozi: _____

Before delivery:

Gravida: _____ Para: _____ Living: _____

Previous CS: _____ Age: _____ Martial status: _____ Telephone no: _____

Performance of the vacuum extraction:

What was the indication of the VAB: _____

VAB identified by: _____

VAB performed by: _____

Vacuum operated by: _____

Which cup was used: _____

Descent of the head: _____

Number of pulls: _____ Number of pop-offs: _____

Oxytocin augmentation used: Yes No How much: _____

Episiotomy: _____

Perineal tear: _____

Estimated blood loss: _____

Apgar score 1/5/10 min: _____

Resuscitation (suction/stimulation/ventilation: _____

Neonatal resuscitation (specify stimulation/suction/BMV): _____

NICU admission: _____ Birth weight: _____

VAB Team:

What went well in terms of technical procedure and communication within the team and the patient?

What could be improved in terms of technical procedure and communication within the team and the patient?

Do we need to take any further actions for these points of improvement?

VAB Baseline Survey questions: Components of a situational analysis

Barriers and opportunities regarding utilization of vacuum assisted deliveries in the Maternity Department. What are the misconceptions of patients and healthcare workers, including fear of neonatal complications.

Data collection method:

conducting a cross-sectional survey among the staff of the labour ward.

Questions to healthcare workers labour ward

1. What are the current practices at the facility regarding prolonged second stage of labour?
2. Do you have personal experience with vacuum assisted deliveries? Can you elaborate?
3. Which factors are causing the low utilisation of vacuum extraction at the facility
4. What is your opinion about vacuum assisted deliveries? Do you consider this as an acceptable intervention? Why? Or why not?
5. Is there motivation and opportunity for change regarding the choice of assisted deliveries in the labour ward? If not, why not?
6. What are the social and cultural norms and beliefs of patients and healthcare workers on vacuum assisted deliveries?
7. What are the barriers which could restrain (re)introduction of vacuum assisted deliveries in the hospital vs concerning the community?
8. What are the facilitating factors for (re)introduction of vacuum assisted deliveries in the hospital vs concerning the community?
9. Do you think it is achievable to (re)introduce vacuum extractors in the labour ward? What needs to be done before we can (re)introduce vacuum extracted deliveries?
10. How can we make it sustainable?

TUMAINI DISTRICT HOSPITAL

KUSAIIDIWA KUJIFUNGUA KWA NJIA YA VACUUM ASSISTED BIRTH (VAB)

VAB: Ni njia salama ya kujifungua kwa kawaida ambapo mama atasaidiwa kumtoa mtoto kwa kifaa maalumu kiitwacho Vacuum machine.



Kifaa iki kitawekwa kwenye ngozi ya kichwa cha mtoto na mkunga(mtoa huduma wa afya)wenye ujuzi na uzoefu atamsaidia mama kumtoa mtoto kwa kufuata muongozo.



IMETHIBITISHWA NA SHIRIKA LA AFYA DUNIANI PAMOJA NA WIZARA YA AFYA TANZANIA
NI SALAMA KWA MAMA NA MTOTO NA WENGI WAMESAIDIWA KWA NJIA HII

NANI ANAWEZA KUSAIIDIWA KUJIFUNGUA NA VAB

- ✓ Mjamzito yoyote ambaye anauchungu na amekaribia
- ✓ kujifungua na amekidhi vigezo kutokana na
- ✓ uchunguzi wa watoa huduma



MAMBO YANAYOHITAJIKA KUTOKA KWA MJAMZITO NA NDUGU/MUME

- ✓ Kuelewa faida na hasara za hii njia
- ✓ Kutoa au kutokutoa ridhaaya kusaidiwa kwa hii njia
- ✓ Kutoa ushirikiano wakati kusaidiwa kwa njia hii kwa
- ✓ kadri ya maelekezo ya mtoa huduma



FAIDA ZA VAB

- ✓ Inazulia kukaa kwenye uchungu kwa muda mrefu wakati mtoto amekaribia kutoka
- ✓ Haiongezi gharama za matibabu
- ✓ Inamuepusha mama na upasuaji usio wa lazima
- ✓ Inamuepusha mtoto kukaa kwenye njia kwa muda mrefu na kuumia ubongo kwa kukosa oksijen
- ✓ Mama kupona haraka baada ya uzazi na kurudi kwenye shughuli zake za kawaida ndani ya muda mfupi

MADHARA YA KUJIFUNGUA KWA NJIA YA VAB

- ✓ Mama kuchanika njia.
- ✓ hii ikitokea watoa huduma watamshona mama kama ilivyo wakati wa kujifungua kawaida.
- ✓ kuvimba ngozi ya kichwa cha mtoto. hii hali itaisha yenyewe baada ya siku chache haitaji matibabu yoyote.

Tumaini Vab TOT
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COMBATING MISCONCEPTIONS WITH FACTS

Demystifying Vacuum Assisted Birth

A resource for Safe Vacuum Champions and Advocates | Attachment to the Safe Vacuum Compendium

HOW TO USE THIS RESOURCE

This document is designed to help *Safe Vacuum* champions and advocates respond with confidence when they face common fears, misconceptions, and barriers around vacuum assisted birth (VAB). Each section presents what is commonly believed or feared, and what the evidence actually shows. Use it in conversations with colleagues, during training sessions, in meetings with managers, or when making the case to decision-makers.

The evidence here draws on international clinical guidelines, peer-reviewed research, and local data from Tanzanian facilities. It is a living resource - champions are encouraged to add local success stories and data as they become available.

1. Why This Matters: The Global Context

VAB use has declined globally while caesarean section (CS) rates have risen, even though the evidence consistently shows that VAB, when indicated and performed correctly, is safer for both mother and baby than a second-stage CS. This paradox is driven not by clinical evidence but by fear, misconceptions, and a lack of training and support.

2 million

stillbirths annually worldwide a large proportion are intrapartum and preventable

>10x

higher maternal deaths per 1000 CS in some African countries vs high-income countries.
Sobhy et al., 2019

VAB declining

particularly in LMICs, despite stronger evidence for its safety vs CS Bulletin of the WHO, 2023

In Tanzania, a significant driver of this decline is the perception, shared by both providers and women, that CS is simply the safer and easier option. The goal of this resource is to equip champions with the facts to change that perception.

2. Perceptions: CS vs VAB Safety

Many providers and women in Tanzania hold the belief that CS is safer and less risky than VAB. This perception is not supported by the evidence.

Common Perception

Caesarean section is safer and easier for the mother and baby than vacuum assisted birth.

VS

The Evidence Shows

CS is major abdominal surgery carrying significant risks: infection, haemorrhage, longer recovery, and complications in future pregnancies.

For the baby, outlet VAB is safer than emergency CS for neurodevelopmental outcomes including ADHD, autism, intellectual dysfunction, and epilepsy.

VAB also results in significantly shorter hospital stays (1 day vs 3 days) and lower costs for families — 25,000 Tsh vs 60,000 Tsh at Haydom Lutheran Hospital. Sobhy et al., 2019 | NHS, 2023 | HLH, 2025

Maternal Risk: VAB vs Second-Stage CS (Nolens, 2019)

Outcome	VAB %	CS %	What this means
Risk of infection	0.4	3.9	CS carries nearly 10x higher infection risk
Risk of haemorrhage	3.0	6.1	CS doubles the risk of significant bleeding
Risk of stillbirth	2.1	10.8	CS at 2nd stage carries 5x higher stillbirth risk
Maternal death	0.1	1.5	CS carries 15x higher risk of maternal death
Neonatal death	1.6	4.8	CS carries 3x higher risk of neonatal death

Source: Nolens, 2019 — VAB vs Second-Stage Caesarean Section

3. Fears: Addressing What Keeps Providers from Acting

Fear is one of the biggest barriers to VAB practice. These fears are understandable — but they are often based on incomplete knowledge or outdated assumptions. Champions can play a key role in creating space to discuss them openly.

Fear 1: Neonatal Trauma

The Fear

Vacuum assisted birth causes serious injury to the newborn — including a deformed or damaged head.

VS

The Evidence Shows

Short-term side effects are generally mild and temporary. A temporary mark on the scalp (chignon) from the suction cup usually disappears within 48 hours.

A bruise on the head (cephalohaematoma) is typically harmless and resolves over time. Serious injuries are rare when the procedure is performed correctly according to protocol.

NHS, 2023

Fear 2: Maternal Injury from VAB

The Fear

There is a much higher chance of severe vaginal tears and lasting harm to the mother with VAB.

VS

The Evidence Shows

Like any medical intervention, VAB carries some risks. There is a slightly higher chance of 3rd or 4th degree tears in VAB (approximately 4 per 100 deliveries) compared to spontaneous vaginal birth (3 per 100).

However, this must be weighed against the substantially higher risks of infection, haemorrhage, and death associated with second-stage CS. Overall, maternal outcomes are significantly better with VAB than emergency CS.

NHS, 2023 | Nolens, 2019

Fear 3: Blame and Judgment if VAB is Unsuccessful

The Fear

If a VAB attempt does not succeed and a CS is performed instead, the provider will be blamed for making the wrong decision.

VS

The Evidence Shows

A provider who attempts VAB and then proceeds to CS has not made a wrong decision — provided clinical indications were met, VAB checklist and SOP were followed. The initial decision to attempt VAB is medically valid. Successful VAB, when appropriate, avoids a more invasive surgical procedure.

What matters is clinical reasoning and documentation, not the outcome alone. Champions can help build a culture where sound clinical decision-making (not outcome alone) is how practice is judged.

RCOG, 2023 | Ameh & Weeks, 2009

4. Misconceptions Among Providers: Indications and Contraindications

Some providers avoid VAB based on clinical beliefs that do not align with international guidelines. These misconceptions lead to missed opportunities for timely intervention and contribute to unnecessary caesarean sections.

Common Misconception

Certain conditions that are not contraindications to VAB according to international guidelines – such as a 'big baby' (macrosomia) or caput succedaneum – are treated as reasons to avoid the procedure.

VS

The Reality

These conditions are NOT contraindications to VAB. Underlying this misconception is often a genuine competency gap: some providers have concerns about their own skills, fear adverse outcomes, or worry about blame if the procedure does not go as expected.

The Safe Vacuum Learning Solution directly addresses this gap through hands-on training, simulation, debrief, and ongoing clinical mentorship.
Vital Strategies, 2023

Key VAB Indications (when to act)

- Prolonged second stage of labour
- Fetal distress / suspicious or pathological fetal heart rate
- Maternal exhaustion
- Need to expedite delivery for maternal or fetal reasons

True Contraindications (when NOT to proceed)

- Less than 34 weeks gestation
- Unengaged fetal head / head not low enough
- Face or brow presentation
- Known fetal bleeding disorder
- Clinician not competent in the procedure

Consult your local protocol and the WHO Labour Care Guide for full guidance on indications and contraindications.

5. Local Evidence from Tanzania

International evidence is powerful – but local data is often more persuasive for colleagues, managers, and community members. Champions are encouraged to collect and share facility-level data on VAB outcomes, recovery times, and cost savings.

1 Day

average VAB hospital stay at Haydom Lutheran Hospital

vs 3 days for CS
HLH, 2025

25,000 Tsh

cost for a VAB delivery

vs 60,000 Tsh for CS
HLH, 2025

Add your data here

Record VAB cases, outcomes, and recovery time at your facility and use them in advocacy conversations

6. The Role of the Safe Vacuum Advocates

Advocates are not just skilled practitioners - they are ambassadors of evidence and practice. Their role goes beyond performing VAB themselves; it includes mentoring colleagues, creating psychological safety for difficult conversations, and making the case for VAB in clinical and management settings.

- 1 Model calm, competent practice. The most powerful thing a champion can do is perform VAB confidently, document it clearly, debrief every VAB case with the team.
- 2 Name and challenge misconceptions directly. When you hear fear or misinformation, respond with the evidence in this document. Normalise the conversation.
- 3 Mentor colleagues individually. The Dominico et al. (2021) study showed that hands-on solo practice is the single strongest predictor of sustained VAB practice. Your mentorship creates the conditions for that.
- 4 Use local data and stories to explain. Numbers from your own facility are more compelling than global statistics to most audiences. Collect and share them.
- 5 Advocate upward. Bring this evidence to management, district medical officers, and professional organisations. Make the case for protected training time, equipment readiness, and team support.

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SAFE VACUUM SAVES LIVES.

This resource is adopted for the Safe Vacuum Compendium and developed through the Safe Vacuum ToT programme.

INTRODUCTION

SBBC Phase II

Bundling the Bundle: SBBC+VAB TOTs TRAINING REPORT

HAYDOM LUTHERAN HOSPITAL 3RD -7TH MARCH

The “Bundling the Bundle – Safe Vacuum + SBBC- is a ground-breaking initiative under the Safer Births Bundle of Care + Safe vacuum projects, aimed at reducing maternal and newborn mortality in Tanzania.

This initiative focuses on promoting Vacuum-Assisted Birth (VAB) as a safe, evidence-based alternative to unnecessary cesarean sections and prolonged labour-related complications.

From 3rd to 7th March 2025, a training of trainers (TOT) course was conducted at Haydom Lutheran Hospital (HLH) by Safe VAB faculty team from HLH, Stavanger and Karolinska hospitals.



The participants were from four health facilities identified based on delivery volume, institutional readiness, and existing engagement with SBBC interventions. Additional participants were from SBBC, TAMA and AGOTA. The initiative is part of the Safe VAB+SBBC's mission to scale up impactful maternal health interventions through structured clinical capacity building.

Despite strong international and local evidence supporting VAB, its uptake remains significantly low in Tanzania. This TOT course sought to address that gap by equipping frontline midwives and clinicians with the knowledge, skills and confidence to safely conduct VAB and cascade the training to their colleagues.

Goal

The overall goal of the training was to increase the use and safety of Vacuum-Assisted Birth through a structured and standardized training model (safe vacuum). The specific objectives were:

- To build a core group of master trainers capable of training other health care providers on the safe application of VAB.
- To introduce clinical guidelines, job aids, and simulation training tools to support long-term practice.
- To foster a culture of confidence, safety, and accountability in the use of VAB techniques.
- To begin addressing systemic barriers to VAB use, such as lack of equipment, low confidence among providers, and fear of blame or complications.

TRAINING DAYS AT HLH

The coordinator of training welcomed participants and facilitators, followed by getting to know each other. The training was officiated by Directors of clinical and nursing services at HLH, they welcome participants to HLH and assured support during their stay at Haydom.

Training was held daily from 9AM to 1630PM following a prepared agenda for each day, encompassing both theoretical and practical sessions. The Jhpiego course materials on helping mothers and babies survive were utilized. The first day commenced with an in-depth orientation on SBBC program by Dr Benjamin and Safe VAB project at HLH by Dr Munyaw. The presentations emphasized the critical need to improve maternal and newborn health outcomes through evidence-based interventions such as vacuum-assisted birth.

Participants undertook a pre-assessment exercise each day to gauge their initial understanding of key concepts that would be covered throughout the week. The first two days functioned as a revision to participants, revisiting critical components of essential care of labor and childbirth and prolonged obstructed labor.

Routine labour ward operations including identification and response to obstetric emergencies were revisited. In addition, hygiene and sanitation protocols, and proper sterilisation techniques were refreshed. Standardized videos recommended in Jhpiego curriculum were used to demonstrate various skills in these sessions. The sessions were highly interactive, allowing participants to share experiences, discuss challenges, and suggest

context-relevant solutions. The participatory nature of these discussions fostered active engagement and peer learning, significantly enriching the training process.

Subsequent mornings included structured recap sessions where participants collectively reviewed the previous day's content, addressed lingering questions, and clarified misunderstandings. This daily reflection enhanced retention and ensured a shared understanding across all participants.

Focus on safe VAB: Days 3 to 5

The final three days of the training focused intensively on the VAB. VAB compendium was used to illustrate the components and actions of Safe Vacuum model. Facilitators guided participants through identifying appropriate VAB cases using VAB action plan, flip book and providers guide.

Attention was given to the procedural and ethical aspects of conducting VAB, including effective communication with both healthcare colleagues and clients, understanding the rationale behind VAB implementation, and recognizing its value in maternal and newborn health. Several practice sessions in group sessions and simulation in teams were conducted.

The concept of clinical mentorship was introduced and its importance emphasized in relation to VAB. Data from Safe VAB project at Haydom was presented and discussed to showcase how VAB is important in preventing unnecessary c/s especially for first time mothers and role of midwives in performing VAB.

Given that VAB is not yet widely practiced in many healthcare settings in Tanzania, the training also emphasized behaviour change communication and advocacy skills. Participants were equipped with techniques to counter negative perceptions, correct misinformation, and promote VAB adoption within their respective facilities and communities.

Observations and Outcomes

The training seemed to be well-received by all participants. The interactive approach, combined with focused content delivery and practical application, created a conducive learning environment.

Participants expressed increased confidence in applying VAB skills in their work settings. More- →

over, the week-long training successfully met its objectives of preparing a team of VAB TOTs capable of cascading the knowledge and supporting implementation in their facilities. This was demonstrated by participants making safe VAB implementation actions plans for each facility.

Lead trainers

Trainers from safe VAB faculty - Dr. Munyaw (HLH), Jorgen (SUS), Magnus (SUS), Anna (KUH) and midwives from HLH (Sabina and Fortunata) served as the lead facilitators throughout the week. They provided lectures, simulation-based training, live demonstrations, and supervised practical sessions. Their focus areas included:

- Indications and contradictions for VAB
- Criteria for VAB
- Communication and informed consent
- Hands-on practices using MamaBirthie
- Managing VAB complications

Training methodologies

- Interactive lectures
- Demonstrations
- Simulation in teams
- Videos

During the training, several actionable recommendations were proposed to strengthen the adoption and effective use of Vacuum Assisted Birth (VAB) in health facilities:

1. **Adherence to Guidelines and Standard Operating Procedures (SOPs):**
The consistent use of nationally approved **clinical guidelines and SOPs** was emphasized as a critical step in standardizing the safe and effective use of VAB across all levels of care.
2. **Equipment Use:**
Ensuring that healthcare providers have **proper knowledge and hands-on experience** in handling VAB equipment. Lack of familiarity with the tools often leads to underutilization or improper use.
3. **Simulation-Based Training:**
The integration of **regular simulation exercises** was recommended as a practical approach to enhance clinical confidence and competency. Frequent practice through simulations can improve providers' readiness to use VAB during actual labor and delivery situations.

4. Client Involvement and Respectful Maternity Care:

A key point raised was the importance of **involving women in decision-making** by providing them with information about the VAB procedure. Rather than treating clients as passive recipients, respectful and informed care should be prioritized. It was suggested that this education could begin as early as **antenatal care (ANC)** visits, where women are introduced to various delivery options, including VAB.

5. Audit and Feedback Mechanisms:

The use of **local data for continuous quality improvement** was strongly encouraged. TOTs were advised to conduct **regular clinical feedback sessions, and debriefings** to identify gaps, monitor outcomes, and refine practice. This data-driven approach is key to improving both clinical performance and patient outcomes.

Training outcomes

- **Development of skilled trainers:**
8 midwives, 2 Gynaecologists, 3 SBBC coordinators and 1 TAMA representative were successfully trained. These individuals are now equipped to conduct VAB (Vacuum-Assisted Birth) training sessions within their respective health facilities, ensuring sustainability and local capacity building.
- **Enhanced knowledge and clinical skills:**
End-of-training evaluations using OSCE tests demonstrated significant improvement in participants' technical competencies and confidence in clinical decision-making related to VAB procedures.
- **Deployment of essential equipment and job aids:**
Participating facilities were supplied with complete VAB kits, Standard Operating Procedures (SOPs), checklist and practical job aids (safe VAB compendium, provider guides, action plans, flip books) to support effective implementation.
- **Establishment of a mentorship and support framework:**
A mentorship structure was introduced, enabling ongoing support for TOTs through remote guidance through phone calls and WhatsApp group and scheduled site visits
- **Introduction of monitoring and evaluation tools:**
Facilities received customized audit tools (debrief forms, VAB registry) designed to track the application of VAB, monitor outcomes for mothers and newborns, and identify areas for continuous quality improvement.

WAY FORWARD

The successful completion of the SBBC+VAB training marks an important milestone in enhancing emergency obstetric care in the Manyara Region. To translate this training into sustained improvements in service delivery and maternal-newborn outcomes, the following actions are proposed as the way forward:

1. Post-training follow-up and mentorship

- Establish structured mentorship and supportive supervision for trained VAB TOTs and health care workers at implementing hospitals

2. Facility-Level implementation

- Ensure that all participating facilities are equipped with complete and functional VAB kits, along with updated SOPs and checklists.
- TOTs conduct trainings of health care workers involved in maternal and newborn care at participating facilities, to be supported by VAB faculty from HLH.

3. Monitoring and evaluation of VAB utilization

- Integrate VAB into routine service monitoring by collecting and analyzing data on VAB usage, outcomes, and challenges.
- Use facility-based audits and review meetings to assess progress, share learning, and identify areas for improvement.

4. Strengthening client engagement

- Incorporate education about VAB into antenatal counselling to improve community awareness, acceptance, and informed consent during labor.
- Develop simple IEC materials (posters, leaflets) explaining VAB as a safe delivery option to reduce fear and stigma.

5. Continuous capacity building

- Plan periodic refresher trainings and simulation-based skill drills to keep providers updated and technically competent.

6. Policy and system strengthening

- Work with district and regional health authorities to integrate VAB indicators into performance audit reviews and maternal health strategies.

CONCLUSION

The **SBBC + VAB Training**, conducted from **3rd to 7th March 2025**, was a critical step toward improving maternal and neonatal outcomes in Manyara Region. Over five days, TOTs were equipped with essential knowledge, practical skills, and a renewed commitment to implementing VAB safely and effectively in their respective health facilities.

The training not only strengthened clinical competencies but also addressed the underlying attitudes, perceptions, and systemic barriers that have long hindered the uptake of this important emergency obstetric intervention. Through interactive sessions, simulations, video-based learning, and collaborative discussions, participants gained a clear understanding of the role VAB plays in reducing prolonged labor, minimizing unnecessary caesarean sections, and preventing fresh stillbirths.

Moreover, the training emphasized the importance of **respectful maternity care**, client involvement, and infection prevention, reinforcing the holistic approach promoted under the SBBC program. Participants left the training empowered not only with technical skills, but also with the confidence and leadership to serve as **VAB champions** and agents of change within their facilities.

To sustain the gains achieved, ongoing mentorship, resource availability, and supportive supervision will be essential. With the right support, TOTs will be positioned to enable other colleagues perform safe VAB and contribute significantly to Tanzania's maternal and newborn health targets.



APPENDICES

Picture assortments

Safe Vacuum experts and training facilitators: Dr. Yuda Munyaw and Dr. Jørgen Linde providing fundamental VAB program at HLH, Tanzania, March 2025





SBBC 2 VAB MENTORSHIP CHECKLIST FORM

Vacuum-Assisted Birth and C-section (VAB) Mentorship checklist form.

(Babati TH, Manyara RRH, Mbulu TH and Tumaini DH)

MENTORSHIP OBJECTIVES

1. Identify areas that need further training
2. Identify cases that qualify for VAB
3. Mentor during VAB (Be an observer and not a doer)
4. Assess documentation if not in place, assist with establishing a database (counter book)
5. Conduct at least three VAB scenarios
6. Ensure the criteria checklist is utilized
7. Ensure proper sterilization and storage of vacuum equipment
8. Compile a report for the mentorship conducted
9. Identify the names of individuals who begin practicing clinical mentoring according to the best practice.
10. Use Respectful Maternal Care (RMC checklist) to observe and verify its integration into day-to-day practice.
11. Observe and record whether there is a change in clinical assessment practice, specifically noting the shift from external assessment methods to vaginal assessment.
12. Observe how the trainers' advocacy ideas (e.g., posters, leaflets, Power Point Templates) are being applied in practice.

REGION, DISTRICT AND FACILITY NAME

Region: _____ District: _____ Facility: _____

Today's date: _____ Mentorship date: _____

Mentorship Team: _____

PARTICIPANTS

Total Participants: _____ Gynaecologist: _____ Pediatricians: _____ Nurses: _____

Medical attendants: _____ Others: _____

EQUIPMENT

1. How many Vacuum sets does the facility have: _____ 2. How many are ready for use: _____ (Sterile)

Comment: _____

3. Has the facility set aside a vacuum set for training at the learning corner? Yes No

Comment: _____

4. Does the facility have a MamaBirthie in the learning corner? Yes No

Comment: _____

5. How many delivery sets does the facility have? : _____

EMERGENCY PREPAREDNESS

1. Does the facility have a resuscitation table and equipment? Yes No

Comment: _____

2. Does the facility have a complete PPH emergency tray? Yes No

Comment: _____

DELIVERY RECORDS

1. How many deliveries have there been in the past two weeks?: _____

2. How many c/s were conducted past two weeks?: _____

3. Does the facility have second-stage c/s? (Go through the case notes for the emergency c/s) Yes No

4. Has the facility conducted any VAB since facility training? Yes No

5. How many VAB were successful?: _____ How many failed?: _____

Why (if failed): _____

6. Where are the VAB documented? 1: _____

6. Where are the VAB documented? 2: _____

6. Where are the VAB documented? 3: _____

7. Does the facility have a VAB data base? Yes No

Comment (computer/ paper?) _____

TRAININGS

1. How many VAB simulations has the facility conducted since the facility training?: _____

Specify and quantity 1: _____

Specify and quantity 2: _____

Specify and quantity 3: _____

Specify and quantity 4: _____

CLINICAL RECORDS

1. Has the facility conducted any clinical debriefings on VAB since facility training? Yes No

Comment: _____

2. Has the facility documented any success stories on VAB? Yes No

(If yes) How many?: _____

STAFF MOTIVATION

How are staff motivated to conduct VAB?

1. Very motivated
2. Moderately motivated
3. Fairly motivated
4. Moderately demotivated
5. Very demotivated

STRENGTHS OBSERVED AT THIS FACILITY DURING THIS VISIT

Strength 1: _____

Strength 2: _____

Strength 3: _____

Strength 4: _____

Strength 5: _____

AREA FOR IMPROVEMENT OBSERVED AT THIS FACILITY DURING THIS VISIT

Area 1: _____

Area 2: _____

Area 3: _____

Area 4: _____

Area 5: _____

OPPORTUNITIES OBSERVED AT THIS FACILITY DURING THIS VISIT

Opportunity 1: _____

Opportunity 2: _____

Opportunity 3: _____

Opportunity 4: _____

Opportunity 5: _____

ACTION PLAN 1

Observed gap:

Cause:

Intervention:

Responsible person:_____

Time Frame:_____

ACTION PLAN 2

Observed gap:

Cause:

Intervention:

Responsible person:_____

Time Frame:_____

ACTION PLAN 3

Observed gap:

Cause:

Intervention:

Responsible person:_____

Time Frame:_____

ACTION PLAN 4

Observed gap:

Cause:

Intervention:

Responsible person:_____

Time Frame:_____

SUMMARY OF COURSE MATERIALS REVIEWED

HMBS Foundational Training • Essential Care for Labor & Birth • Prolonged & Obstructed Labor • Vacuum Assisted Birth

Prepared by Dr. Jørgen Linde, O&G Registrar, Stavanger University Hospital

This summary outlines the key points emphasized during the course and highlights the sections that were reviewed in detail, with clinical implications and practical exercises. It is structured by thematic chapter to reflect the logical flow of teaching. Sections were selected and prioritized to keep to the course time schedule.

Essential Care for Labor & Birth

Pages 12 Quick Check

We began with a review of the quick check on page 12. The focus was on identifying clinical signs and interventions early. Emphasis was placed on the clinical implications of each observation, encouraging participants to consider how rapid assessment can influence outcomes. This session included discussion of scenarios where timely recognition of risk factors could prevent complications.

Pages 14–23 Core Content Review

These pages were reviewed thoroughly, highlighting key principles of monitoring maternal and fetal well-being during labour. The discussion included:

- Identification of normal vs. abnormal labour patterns.
- Early interventions to support labour progress.
- Importance of accurate documentation for clinical decision-making and communication.

Pages 28 & 32 Assessment and Documentation in the First Stage

These pages provided charts to emphasize the difference between the first and second stages of labour. Focus was placed on the anatomical and physiological distinctions, which are critical for understanding when interventions such as vacuum-assisted birth may be appropriate.

Participants practiced interpreting these charts, linking anatomical knowledge to practical assessment and documentation.

Prolonged & Obstructed Labor

Flipchart 1 Page 18: Rapid Assessment

We went through a step-by-step approach for rapid assessment, highlighting the clinical implications of each finding. The discussion stressed the importance of timely recognition and decision-making in cases of prolonged labour.

Page 20 Abnormal Fetal Heart Rate

Abnormal fetal heart rate patterns were defined and explained, including the physiological basis and potential interventions. Participants reflected on how early detection of abnormal heart rate can guide management and improve outcomes.

Pages 30–49 The Four P's of Labor

These pages were reviewed in detail, emphasizing Passenger, Passage, Powers, and Patient. Each component was explained, including how it affects labour progression and decision-making for interventions. Clinical examples were provided to illustrate real-world application.

Page 64 Fever in Labor

Strategies were discussed for managing fever in labour, including prioritization of assessments and documentation to ensure safe care.

Flipchart 2 Pages 2–17: Augmentation and Complications

This section was highlighted as particularly important due to the high incidence of adverse outcomes associated with labour augmentation. Key points included:

- Indications for augmentation.
- Monitoring requirements during augmentation.
- Identification and management of complications.

Vacuum Assisted Birth

Pages 10–13 Confirming Indications

The review began with a discussion on indications for vacuum-assisted birth. The content reinforced differentiation between first and second stages of labour, reflecting back on normal labour patterns and assessment principles previously discussed.

Pages 24–59 Detailed Procedure Review

These pages were covered comprehensively. Focus areas included:

- Stepwise procedure for vacuum-assisted birth.
- Safety precautions and contraindications.
- Integration of maternal and fetal assessment to guide intervention.

Practical Training – Skills and Team Simulation

The latter half of the session was devoted to skills training and team simulations, allowing participants to practice in a controlled environment. This included:

- Hands-on vacuum extraction techniques using the MamaBirthie simulator.
- Team communication and coordination exercises.
- Scenario-based problem-solving to reinforce decision-making under clinical pressure.

For the full course materials, refer to the HMBS training programmes at hmbs.org/training-programs/

Safe Vacuum Registry Minimum Data Set

Every vacuum-assisted birth, attempted or completed, must be entered into the Safe Vacuum Registry soon after the procedure, linked to the clinical debrief form. The data set below is the minimum required for audit and quality improvement. Facilities may add columns but should not remove any field listed here.

Data Point	Description / guidance
#	Sequential case number
Date	Date of VAB procedure
Patient number	Facility patient identifier
Names	Patient name (initials or code per facility policy)
Age	Patient age in years
Gravida	Total number of pregnancies
Para	Number of previous births
Living	Number of living children
Previous SVD	Previous spontaneous vaginal deliveries
Previous CS	Previous caesarean sections
GA	Gestational age (weeks)
Indication for VAB	Primary indication (prolonged second stage / fetal distress / maternal exhaustion / maternal condition)
Apgar 1 min	Apgar score at 1 minute
Apgar 5 min	Apgar score at 5 minutes
Apgar 10 min	Apgar score at 10 minutes (if indicated)
Resuscitation	Resuscitation method performed (none / stimulation / bag-mask / intubation)
Baby outcome	Baby outcome at discharge (well / NICU / death)
NICU	NICU admission: yes / no; days if applicable
Birth weight (g)	Birth weight in grams
Blood loss (mls)	Estimated maternal blood loss in millilitres
Tear / episiotomy	Perineal trauma: none / 1st / 2nd / 3rd / 4th degree / episiotomy
Station / descent	Fetal station at time of VAB (e.g. 0 / +1 / +2)
Number of pulls	Number of traction pulls applied
Number of pop-offs	Number of cup detachments
Cup type	Cup used (metal / Kiwi OmniCup / other)
Cup placement	Cup placement: correct flexion point / suboptimal
Oxytocin	Oxytocin used during second stage: yes / no
Performer	Name / role of lead operator
Other team members	Names / roles of supporting team
Identified by	Who identified the indication (self / referral)
Other remarks	Free text for any additional clinical notes

BRIEFING OF MRS. A

Mrs. A Scenario for Team Simulation**Situation:**

Mrs. A's labor started 16 hours ago. She is currently in the second stage of labor and has been pushing for 3 hours.

Background:

- Gravida 1, Para 0
- Estimated Due Date (EDD) is 1 week from now
- No regional anesthesia, IV fluids, or medications administered

Assessment:

- Fetal Heart Rate (FHR): 188 bpm, 192 bpm, 172 bpm after 3 contractions
- Mrs. A is very tired but still able to push
- Vital signs: BP 124/72, Pulse 78 bpm, Respirations 14 breaths/minute, Temperature 36.8°C

Recommendation: Consider evaluating the need for medical intervention due to prolonged pushing and fetal distress. Monitor maternal and fetal well-being closely and assess supportive measures such as IV fluids or pain relief.



Contractions: 4/10 min, lasting 50–60 sec

Abdomen: No Bandl's ring
Bladder is distended

Position: LOA

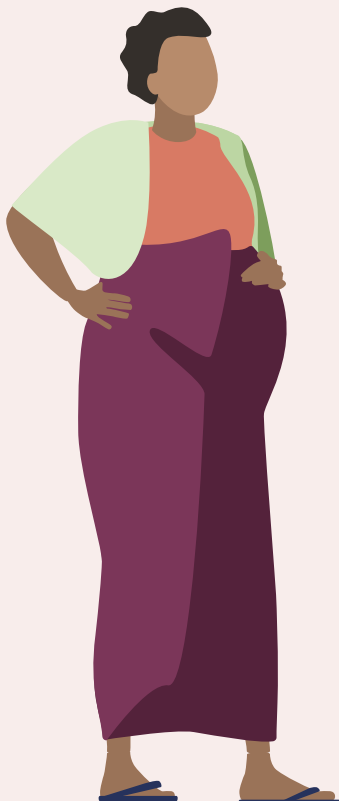
Number of fetuses: 1

Estimated weight: 2500 g

Descent: 1/5 above the symphysis pubis, +2 station

Cervix: 10 cm

Liquor: Meconium



MOTHER (MRS. A) ROLE CARD

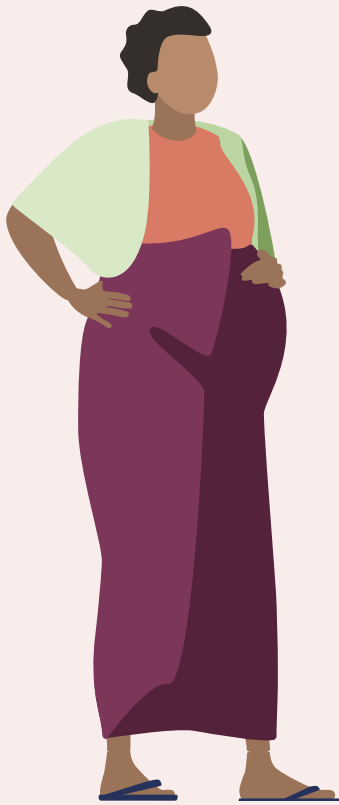
Your tasks as a mother during the team simulation are to:

- Not cooperate. When you understand the VAB will be performed, you become scared and start to scream and move around.
- You do not want a cesarean either. You want a normal birth.

Be ready to give feedback to the team.

How was the communication with the team?

How did you feel as a mother?



DEBRIEF GUIDE OF MRS. A

Debriefing Questions (to the team)

- What did you do well?
- Is there anything you forgot to do?
- What was difficult to do or remember?
- How can we help each other remember?
- What would you do differently next time to improve your performance?

Mentorship Questions (to the observers)

- What is your feedback to the team as a mentor?
- Discuss what you would do and say to the mother and her partner while ensuring the best possible outcome.

Answer: Make sure you meet the woman where she is and answer any questions she has. There is a high risk that a cesarean section will be complicated. The risk is higher for both the mother and baby because birth will be delayed. It may be difficult to deliver the baby by cesarean when the head is so far down, and the baby could be injured. Cesarean delivery carries risks including injury to the uterus and other organs, increased bleeding, and infection. The operation may affect future pregnancies and babies.

BRIEFING OF MRS. B

Mrs. A Scenario for Team Simulation

Situation: Mrs. B's labor started 11 hours ago. She is currently in the second stage of labor and has been pushing for 3.5 hours. She is exhausted and feels unable to continue pushing.

Background:

- Primigravida (first pregnancy)
- Estimated Due Date (EDD) is 1 week ago

Assessment:

- Fetal Heart Rate (FHR): 112 bpm 30 seconds after the contraction
- Mrs. B is exhausted and does not think she can push any more
- Vital signs: BP 102/52, Pulse 82 bpm, Respirations 16 breaths/minute, Temperature 37.8°C

Recommendation: Consider evaluating the need for medical intervention due to maternal exhaustion and concerning FHR. Consider emptying the bladder. Monitor maternal and fetal well-being closely and assess the potential benefits of providing supportive measures such as sugar drink, pain relief, IV fluids, oxytocin infusion, if not given before, or assisted delivery options.



Contractions: 4/10 min, lasting 50–60 sec

Abdomen: No Bandl's ring
Bladder distended

Position: ROA

Number of fetuses: 1

Estimated weight: 3000 g

Descent: 1/5 above the symphysis pubis, +2 station

Cervix: 10 cm

Liquor: Clear



DEBRIEF GUIDE OF MRS. B

Debriefing Questions (to the team)

- What did you do well?
- Is there anything you forgot to do?
- What was difficult to do or remember?
- How can we help each other remember?
- What would you do differently next time to improve your performance?

Mentorship Questions (to the observers)

- What is your feedback to the team as a mentor?
- Discuss what you would do and say to the mother and her partner while ensuring the best possible outcome.

Answer: Make sure you meet the woman where she is and answer any questions she has. There is a high risk that a cesarean section will be complicated. The risk is higher for both the mother and baby because birth will be delayed. It may be difficult to deliver the baby by cesarean when the head is so far down, and the baby could be injured. Cesarean delivery carries risks including injury to the uterus and other organs, increased bleeding, and infection. The operation may affect future pregnancies and babies.



MRS. B COMPANION ROLE CARD

Your tasks as a father during the team simulation are to:

- Distract the clinical team. When you find out that VAB is going to be performed, ask:
“What are you going to do with her?”
“Are you going to hurt our baby?”
- During the second pull, you will faint.

Be ready to give feedback to the team.

- How did the communication go?

BRIEFING OF MRS. C

Mrs. C Scenario for Team Simulation

Situation: Mrs. C's labor started 15 hours ago. She is currently in the second stage of labor and has been pushing for 2.5 hours on her back. She is tired but feels she can still push.

Background:

- Gravida 2, Para 1(One previous cesarean section)
- One week overdue
- Membranes ruptured 8 hours ago
- No regional anesthesia, IV fluids, or medications administered

Assessment:

- FHR: 112 bpm during contraction, 156 bpm 30 seconds afterward
- Mrs. C is tired but can still push
- Vital signs: BP 102/52, Pulse 82 bpm, Respirations 16 breaths/minute, Temperature 37.2°C

Recommendation: Continue monitoring maternal and fetal wellbeing. Consider position changes, IV fluids, pain relief, and bladder emptying. Assess labor progress and be prepared to intervene if fetal distress or maternal exhaustion develops.



Contraction: 4/10 min, lasting 50-60 sec

Abdomen:

No Bandl's ring

Bladder is distended

Position: LOA

Number of fetuses: 1

Estimated weight: 4000 g

Descent: 1/5 above the symphysis, pubis, +2 station

Cervix: 10 cm

Liquor: Clear

DEBRIEF GUIDE OF MRS. C

Debriefing Questions (to the team)

- What did you do well?
- Is there anything you forgot to do?
- What was difficult to do or remember?
- How can we help each other remember?
- What would you do differently next time to improve your performance?

Mentorship Questions (to the observers)

- What is your feedback to the team as a mentor?
- Discuss what you would do and say to the mother and her partner while ensuring the best possible outcome.

Answer for Facilitator: VAB can be performed because the mother has a previous cesarean section and the risk of uterine rupture is higher with prolonged second stage labor.





MRS. C LEAD PROVIDER ROLE CARD

Your tasks as the lead provider during the team simulation are:

- Ensure the VAB fails because there have been two pop-offs.
- After the second pop-off, say:

“This will not work. We need to prepare for a C-section instead.”

Be ready to give feedback to the team.

- How did the communication go?

BRIEFING OF MRS. F

Mrs. F Scenario for Team Simulation

Situation: Mrs. F's labor started 16 hours ago. She is currently in the second stage of labor and has been pushing for 1.5 hours in a supine position. She feels tired but remains determined to continue pushing.

Background:

- Gravida 2, Para 1 (One previous cesarean section)
- One week overdue
- Membranes ruptured 8 hours ago

Assessment:

- Fetal Heart Rate (FHR): Tachycardia 170–180 bpm
- Mrs. F is tired but determined to continue pushing
- Vital signs: BP 118/70, Pulse 78 bpm, Temperature 37.0°C, Respirations 18 breaths/minute.

Recommendation: Continue to monitor maternal and fetal well-being closely. Encourage Mrs. F to keep pushing as long as she feels able. Consider supportive measures such as changing positions or providing IV fluids if necessary. Be prepared to intervene if there are signs of fetal distress or maternal exhaustion.



Contraction: 4/10 min, lasting 50–60 sec

Abdomen:

No Bandl's ring

Bladder is distended

Position: ROA

Number of fetuses: 1

Estimated weight: 3000 g

Descent: 3/5 above the symphysis pubis, -1 station

Cervix: 10 cm

Liquor: Bloody



DEBRIEF GUIDE OF MRS. F

Debriefing Questions (to the team)

- What did you do well?
- Is there anything you forgot to do?
- What was difficult to do or remember?
- How can we help each other remember?
- What would you do differently next time to improve your performance?

Mentorship Questions (to the observers)

- What is your feedback to the team as a mentor?
- Discuss what you would do and say to the mother and her partner while ensuring the best possible outcome.

Answer for facilitator: VAB is not recommended at the moment, because of fetal distress and the station is too high for VAB. Cesarean is recommended in this case.

TEAM SIMULATION ROLE CARD: OBSERVER (MENTOR 1)

Your role: As an observer and mentor during the clinical team practice, your main task is to watch the team performing and give support and advice to help everyone improve.

Tasks:

1. Spot problems: Look out for any troubles the team might have, like poor communication or mistakes.
2. Check for blame: See if anyone might feel blamed or upset and think about how this could affect the group.
3. Find better ways: Think about how the team can work together more smoothly, like talking more clearly or helping each other better.
4. Help Them Grow: Figure out how you can support the team to become better at their skills and feel more confident

Your goals as a mentor: Create a safe space to reduce fear, help each person grow, and make sure everyone uses the team's strengths together.

Feedback: Be ready to give kind, clear advice to the team after the practice, pointing out what they did well, what needs work, and simple tips to do better next time.

TEAM SIMULATION ROLE CARD: OBSERVER (MENTOR 2)

Your role: As an observer and mentor during the maternity team simulation practice, your main job is to watch the team including the person performing, and provide helpful support and advice to improve communication and respectful care.

Tasks:

1. Spot Communication issues: Look out for any problems with how the team talks to each other, like misunderstandings or unclear instructions.
2. Check for respectful care: See if everyone is treating patients and each other with kindness and respect, and note any areas where this might be missing.
3. Find better ways: Think about how the team can communicate more clearly and show more respectful care, like listening better or being more supportive.
4. Help team grow: Figure out how you can support the team to improve their communication skills and deliver more respectful care with confidence.

Your goals as a mentor: Create a safe space to reduce fear, help each person grow, and ensure everyone works together to provide clear communication and respectful care.

Feedback: Be ready to give kind, clear advice to the team after the practice, pointing out what they did well in communication and care, what needs improvement, and simple tips to do better next time.

QI PROGRAMS ATTENDANCE

Topic: _____ Facilitator: _____

Date: _____ Venue: _____

S/N	Name	Title	Phone number	Signature
1				
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CASE REPORT FROM

Haydom Lutheran Hospital – an Implementation Example



Pictures a), b): A team simulation demonstration by Dr. Anna Sand in the HLH labour ward October 2022

An example of successful reintroduction of vacuum-assisted births is the case in Haydom Lutheran Hospital (HLH). In this hospital, we observed a decreasing trend of vacuum-assisted births since its introduction in 2013. In 2021, we barely performed VAB's anymore, and caesarean section rates were relatively high (24.6%).

We started with a **situational analysis** by conducting a **cross-sectional survey** among the staff of the labour ward, to gain a deeper understanding of the local situation and perspectives, opportunities, barriers and challenges regarding utilization and sustainable reintroduction of vacuum-assisted births in prolonged second stage of labour in HLH. Based on these results, we could formulate and provide recommendations responding to the local needs and situation. These recommendations were presented to the Maternity ward in February 2022.

Reactions were positive, and there seemed to be motivation for change, though we also discussed some misconceptions regarding this intervention. Our next step was to form a **Local Vacuum Committee** (LVC) with one local gynecologist, two local registrars, and two local midwives to plan and organize implementation activities. **Our goal was to increase the percentage of Vacuum Assisted Births (VAB) from 0.04% (2021) to 5% (2024)**, to reduce the percentage

of second stage caesarean sections, thereby improving maternal outcome (less PPH, SSI, Sepsis, faster recovery), reduction of costs, reducing the risk for subsequent pregnancies (uterine rupture, abnormal placentation, PPH), and to improve neonatal outcome (e.g. asphyxia secondary to a decreased decision to birth interval). LVC, arranged face-to-face meetings 1-2 times per month to track progress and plan supporting activities.

Then we educated and sensitized healthcare workers in the labour ward, because everyone needs to be motivated and willing to reintroduce this intervention.

We arranged presentations (focusing on clear indications, contraindications, procedure, beneficial effects and possible complications). In collaboration with Karolinska University Hospital, a Standard Operating Procedure (SOP) with clear roles and responsibilities were written, together with a Safe Vacuum Checklist. These were also presented to the maternity ward, printed and laminated for use in the labour ward.

Sustainable vacuum equipment (Medela vacuum cups and extraction hand pumps), MamaBirthie simulator and Jhpiego HMS training material were provided by Laerdal Global Health, and the first training was arranged in March 2022.

Simulation training was introduced by Karolinska University Hospital later in 2022, which enabled LVC

to plan simulation team training every other week after the morning report in the labour ward. In these sessions, we trained teamwork and communication, nurses, midwives, interns, registrars and gynecologist present at the maternity ward.

Follow-up hand-on skills training for registrars, midwives and interns were conducted every 1-2 months to gain experience and confidence, considering the high turnover of staff, led by a skilled and experienced gynecologist or registrar. In these training sessions of about 3 hours, we shared information regarding the procedure, followed by a demonstration and enough time so everyone could practice their skills on MamaBirthie simulator.

From April 2022 onwards, we initiated Safe Vacuum Assisted Births in the labour ward at HLH. The outcomes were good, and we reflected on every VAB with the team by discussing and filling in a short debriefing form together.

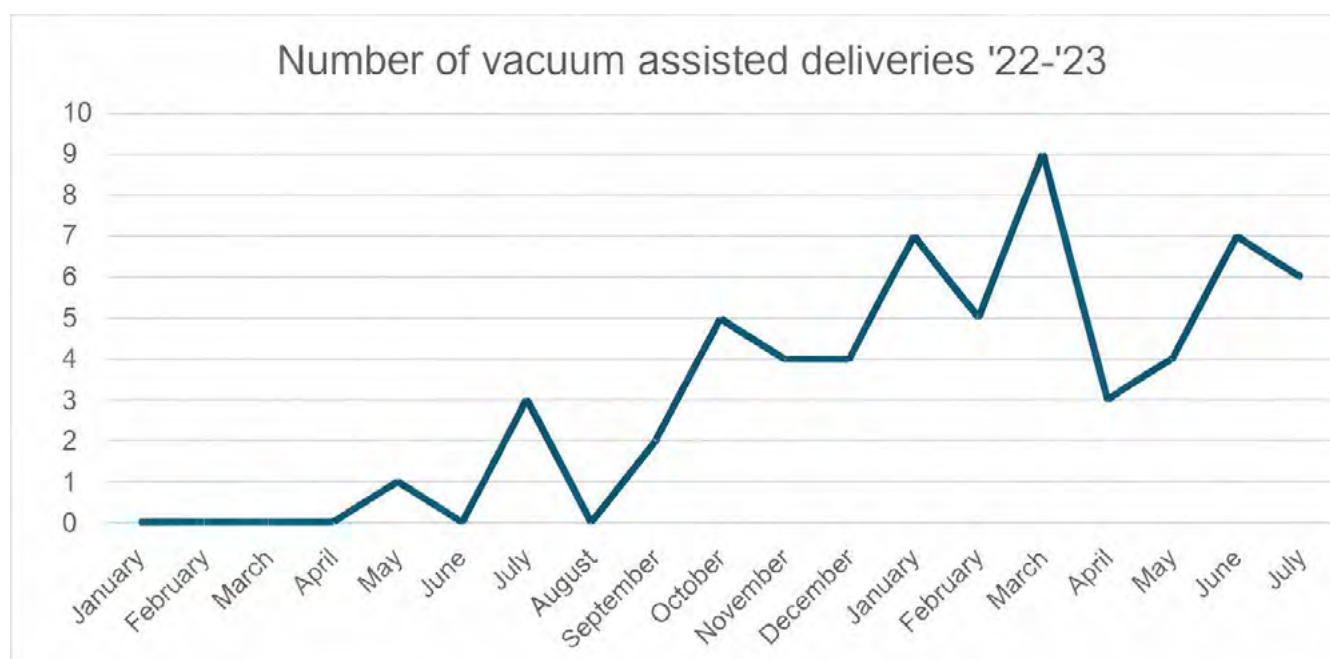
Two times a year, for one week, we welcomed Dr. Anna Sand (an obstetrician from Sweden) for clinical mentor-

ship in vacuum-assisted births, by guiding and helping us perform VABs, gaining skills and confidence. Also, this was a good time for reflecting on failed VABs, so we could learn from these cases.

We created a **Safe Vacuum registry** enabling us to reflect on our outcomes. Every 3 months we carried out a quarterly evaluation of the VAB project, including maternal and neonatal outcomes and presented this to the maternity ward, including **celebration of successes** and discussing the way forward.

We observed an increasing trend of VABs and good outcomes. Two local midwives, Sabina Mmao and Fortunata Francis, were motivated to perform research by investigating patient and healthcare workers' perspectives regarding VABs.

Catherine de Sonnaville



Implementation Logbook Safe VAB project at HLH

Date	Activity	Details
4/10/22	VAD education+ research presentation by Dr. Catherine	For the whole department after the morning report
6/10/22	VAD skills training by Dr. Jorgen + obstetrician	For the registrars
18/10/22	Simulation team training by Dr. Anna + team	After morning report for the maternity department
19/10/22	Meeting/discussion library	Discussion about the vision of VAD in HLH, with whole maternity department
20/10/22	Simulation team training by Dr. Anna + team	After morning report for the maternity department
24/10/22	Meeting VAD committee	About the action points and planning of training and education
25/10/22	Skills training for registrars and (2) midwives	By Dr. Anna + Munyaw
25/10/22	Online meeting with Norway	Via MS Teams
27/10/22	Simulation team training by Dr. Munyaw	After morning report for the maternity department
27/10/22	VAD education by Dr. Munyaw	For the midwives and nurses of labour ward
4/11/22	Skills training for midwives	By Dr. Nai, Sabina and Fortunata
17/11/22	Simulation team training with Dr. Catherine as guider	After morning report
13/12/22	Simulation team training with Dr. Munyaw + skills training for midwives	After morning report
27/12/22	Vacuum committee meeting	With Fortunata, Nai, Munyaw and Catherine
4/1/23	Skills training Dr. Munyaw + Dr. Catherine	For midwives, new registrars and intern doctors.
24/1/23	Simulation team training with Sabina as guider	After morning report
30/1/23	Skills training Dr. Jorgen	For midwives, new registrars and intern doctors.
31/1/23	Simulation team training with Dr. Issa as guider	After morning report
31/1/23	Vacuum committee meeting	With Fortunata, Sabina, Issa, Munyaw and Catherine
02/02/23	SOP presentation by Catherine and Issa	After the morning report
14/02/23	Simulation team training with Dr. Munyaw as guider	After morning report
28/02/23	Simulation team training with Dr. Catherine as guider	After morning report
08/03/23	Skills training by Dr. Munyaw	For midwives, new registrars and medical interns
14/03/23	Simulation team training with Fortunata as guider	After morning report
15/03/23	Vacuum committee meeting	With Fortunata, Issa, Munyaw and Catherine
20/03/23	Vacuum committee meeting about safe vacuum progress and Anna's plan	With Fortunata, Issa, Munyaw and Catherine
21/03/23	Simulation team training with Dr. Issa as guider	After morning report With Dr. Anna
21+22+23/03/23	Skills training by Dr. Munyaw and Dr. Anna	For midwives, new registrars and medical interns
21/04/23	Vacuum committee meeting + Jorgen	With Fortunata, Jorgen Munyaw and Catherine
27/04/23	Quarterly audit/evaluation of VAB presentation by Dr. Catherine	After morning report for the whole ward

9/05/23	Simulation team training with Dr. Catherine as guider	After morning report
23/05/23	Simulation team training with Sara as guider	After morning report
5/06/23	Vacuum committee meeting	With Sabina, Munyaw, Issa, Catherine
6/06/23	Simulation team training with Sabina as guider	After morning report
27/06/23	Simulation team training with Domitila as guider	After morning report
06/07/23	Vacuum committee meeting	With Sabina, Fortunata, Issa, Catherine
11/07/23	Simulation team training with Matajiri as guider	After morning report
12/07/23	Skills training theory + practice, by Dr. Issa/ Dr. Catherine/Fortunata/Sabina	For newcomers: nurses, midwives, interns.
25/07/23	Simulation team training with Fortunata as guider	After morning report
9/08/23	Vacuum committee meeting	With Dr. Munyaw and Catherine
15/08/23	Simulation team training with Dr. Catherine as guider	After morning report
29/8/23	Simulation team training with Sabrina as guider	After morning report
31/8/23	Vacuum committee meeting	With Issa/Catherine/Fortunata/Sabina

Introduction

Clinical mentorship is a structured and supportive relationship between an experienced clinician (the mentor) and a less experienced one (the mentee). [20] It's a process focused on the mentee's professional growth, aiming to improve their clinical skills, knowledge, and overall competence in providing high-quality patient care. [21]

The following report details a clinical mentorship program at Haydom Lutheran Hospital (HLH) focused on the practice of vacuum-assisted births (VAB).

Mentorship Visits and Activities

This report describes the activities of the first for visits of over two years by Dr. Anna Sand from Karolinska Institute in Stockholm, Sweden.

1st Mentorship Visit (October 2022)

- **Focus:** Teamwork and effective communication in the labor ward
- **Mentor:** Dr. Anna Sand, obstetrician at Karolinska University Hospital/Karolinska Institutet in Stockholm, Sweden.
- **Activities:** A diagnostic assessment was conducted with the local VAB committee to identify the current situation and the needs of the doctors and midwives. A workshop was held to draft a standard operating procedure (SOP) and a checklist, which also served to strengthen the VAB committee. Conducted mentor-led lectures, team simulations, and skills training sessions to emphasize the importance of teamwork as a core component of safe VAB. Debriefing sessions were also modeled and provided after every VAB.
- **Outcome:** A strong emphasis on teamwork as a foundational component for Safe Vacuum was established.

During the first mentorship visit a diagnostic assessment was conducted together with the local VAB Committee (core team) to identify the current situation, the perceptions and concerns of the doctors and midwives and their needs in the maternity unit for setting training relevant objectives and desired outcomes.

A workshop to draft the SOP and checklist was initiated together with the local VAB committee (that helped strengthen the VAB committee as a unit for future activities).

Dr. A Sand was there for over two weeks to conduct mentor-led lectures, team simulations, as well as skill training sessions for all the facility health care providers to emphasize the importance of teamwork as a core component of a best practice for safe VAB. Clinical mentoring (coaching and timely feedback) provided an opportunity to model a debriefing practice after every VAB.

After the 1st and every following mentorship visit, Dr. A. Sand reviewed outcomes together with VAB committee (core team) according to the planned activities which served as a checklist for self-assessment of the overall progress.

During each following mentorship visit, the progress of set goals and outcomes were reviewed together with the local VAB committee. That helped to establish accountability and commitment to achieve the set goal (of increased VAB application by 5% in 2024).

2nd Mentorship Visit (March 2023)

- **Focus:** VAB skill proficiency.
- **Activities:** Review of activities and progress, discussion of VAB cases with the core team, mentor-led skill training sessions, facilitated discussions on VAB cases.
- **Outcome:** Enhanced skill proficiency among staff involved in VAB teams.
- During the 2nd mentorship visit mentor-led skill training sessions were organized for all the staff involved in VAB teams and facilitated discussions on VAB cases. Dr. Sand was available for clinical mentoring and debriefing all time during her stay at HLH.

3rd Mentorship Visit (November 2023)

- **Focus:** Patient selection and decision making.
- **Activities:** Review of patient cases and progress on VAB implementation, lectures on the normal physiology of labor and delivery, identifying and selecting patients for VAB, clinical mentoring and debriefing.
- **Outcome:** Improved patient selection and decision-making processes were observed.

Apart from reviewing patient cases, and the progress on VAB implementation activities, Dr. Sand conducted lectures on identifying and selecting patients who would benefit from VAB for all the facility staff. Dr.

Sand was available for clinical mentoring and debriefing throughout her stay at HLH for 10 days. As well as supporting the core team in their work of organizing and facilitating training, team simulation sessions and debriefing.

4th Mentorship Visit (March 2024)

- **Focus:** Mentoring practice
- **Activities:** Lectures and workshops on mentor/mentee dynamics, clinical mentoring and debriefing sessions.
- **Outcome:** Strengthened mentor/mentee relationships and sustained support for the VAB committee were established.

During the mentorship visit over a week at HLH, lectures and workshops led by Dr. A. Sand on mentor/mentee dynamics were organized for all facility staff at the labour ward.

She made herself available for clinical mentoring and debriefing sessions during her stay at HLH. Continuous support for the VAB committee was provided by the mentor every visit.



Dr. Anna Sand - mentor with maternity personnel at HLH

Operational Challenges

Two core operational challenges hinder the sustained delivery of expert care for Vacuum-Assisted Birth (VAB):

- **Team expertise.** The regular rotation of medical and nursing staff across different departments and facilities causes a significant drain on accumulated expertise. When a clinician who has achieved a high degree of proficiency in vacuum extractions transfers.

"It may happen that someone has gained significant experience and become skilled at performing vacuum extractions, but then that person is transferred to another hospital and is no longer part of the team." Says Anna Sand.

- **Requirement for constant readiness.** VAB procedures are unscheduled emergencies that can occur at any hour.

"Suddenly it is time, at any hour of the day or night, and the team needs to be available. It is an emergency procedure and requires competence within the team that is present." Says Anna Sand.



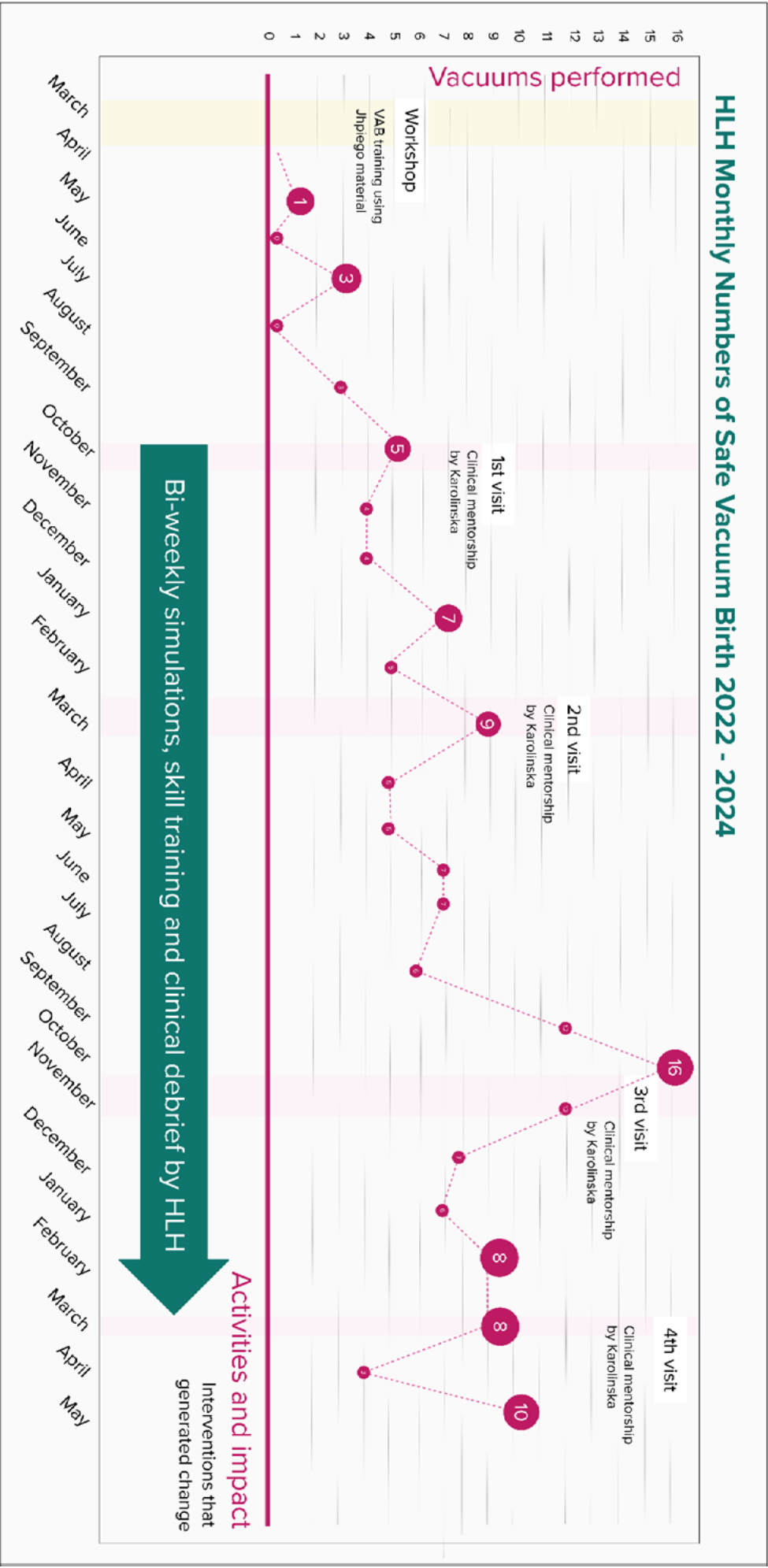
Progress and Outcomes

Data from the "HLH Monthly Numbers of Safe Vacuum Birth 2022-2024" chart shows an overall increasing trend in the number of vacuum births performed, with notable increases following each mentorship visit. The mentorship program has helped establish accountability and commitment to achieve the set goal of increased VAB application by 5% in 2024.

Conclusion

The clinical mentorship program at HLH, led by Dr. Anna Sand, has demonstrably contributed to the professional growth of the facility's healthcare providers. Through structured visits, focused training sessions, and continuous support, the program has effectively improved teamwork, skill proficiency, patient selection, and internal mentoring practices, ultimately enhancing the quality of patient care in the labor ward.

The work identified 3 main focus areas for clinical mentors: 1) To mitigate fear; 2) To grow individual and teams and 3) To lead by example.



Proposed structure for quarterly review meeting of vacuum committee meeting.

PURPOSE

To review implementation of safe vacuum- Assisted birth.

- Monitor performance
- Identify challenge
- Share best practice
- Develop action plans for continuous quality improvement

PARTICIPANTS

- Hospital management team representative
- Obstetricians/Medical Doctors/ Midwives specialist /Midwives
- Quality improvement team representative
- VAB facility focal person
- Head of OBGY Department
- Training partners and implementing partner (where applicable)
- Regional and District reproductive child health coordinators
- Community Health workers coordinator (When community engagement is discussed)

MEETING AGENDA

1. Opening session

- Welcome remarks
- Introduction of participants
- Review and approval of agenda

2. Review of previous action points

- Progress on agreed action plan
- Outstanding issues

3. Performance review

- Number of vacuum assisted birth
- Success rate
- Failed VAB and reason
- Pop off reason
- Maternal and Neonatal outcome
- C/S avoided
- Facility comparison

4. Review and learning session

- Presentation of successful cases.
- Review of challenging cases
- Discussion of learned lesson
- Clearly identification of opportunity for improvement

5. Limitation/ Challenges and root cause analysis.

- Discussions
- Skill gaps
- Documentation quality
- Community misconception
- Referral challenges

6. Community engagement update

- CHW activities conducted
- Community feed back
- Misconception identified
- Awareness campaigns implemented

7. Best practice sharing

8. SMART Action planning development

- Activity
- Responsible person
- Time line
- Expected outcome
- Implementation status

Safe Vacuum Plan of Action

Observed Gap	QI plan of Action	Who and When



SCAN FOR MORE RESOURCES