PanAfrican Medical Journal

Annex 1: policy recommendations to reduce cesarean sections	
What is accomplished	**What needs improvement**
Item 1: providing doula support	
1. To the best of the author's knowledge, it is unclear whether TMOH has developed a detailed roadmap for doula support.	1. TMOH should prepare a detailed roadmap for doula support and declare this roadmap to health professionals and the public. 2. TMOH should organize awareness campaigns regarding the benefits of doula support among healthcare professionals and the public.
Item 2: monitoring of C-section rate	
1. TMOH conducts monitoring of institutions' C-section rates regularly and issues warnings when necessary. 2. TMOH ensures the widespread use of Robson classification nationwide. 3. TMOH publishes annual C-section rate.	1. TMOH should ensure meticulous completion of Robson classification forms across all healthcare institutions. 2. TMOH should address the educational needs of obstetricians and healthcare staff regarding Robson classification.
Item 3: optimal C-section rate discussions	
1. TMOH strongly emphasizes the World Health Organization's recommended C-section rate of 15% as a target for Türkiye. 2. Türkiye exhibits significant regional disparities in terms of C-section rates.	1. Health authorities should recognize that the optimal C-section rate can vary across regions and over time. There is no universal optimal C-section rate suitable for all regions and times. 2. Setting more achievable targets, such as reducing the C-section rate to 35% in the initial stage, may be more realistic. Implementing different and flexible targets for various healthcare institutions and regions could be more effective. 3. It is crucial for TMOH to recognize that the C-section rate is affected by the prevalence of repeat C-sections when implementing measures. The reduction of each primary C-section holds significant value.
Item 4: supporting high-quality research on high C-section rate	
1. There has been a limited amount of high-quality studies researching the reasons behind the	1. TMOH should encourage high-quality studies as there is a pressing need for research on high C-section rate. 2. These studies should develop effective strategies aiming to reduce the high C-section rate.

high C-section rate and suggesting policies to reduce the rate.	3. Research should be conducted from the views of diverse stakeholders, including pregnant women, obstetricians, midwife-assisted healthcare personnel, future fathers, healthcare managers, and health policymakers, to identify the factors contributing to high C-section rates and propose solutions. 4. It is particularly important to encourage research examining the factors contributing to high C-section rate in private hospitals.
Item 5: increasing awareness	
1. TMOH has initiated campaigns to raise awareness regarding the risks associated with C-sections.	1. Efforts of TMOH to raise awareness have not been effective. 2. More effective and intensive campaigns aiming to encourage normal delivery should be conducted among women of childbearing age. 3. Active media campaigns emphasizing the superiority of normal delivery should be organized with the participation of society's role models. 4. Increasing awareness of reproductive-age women regarding the risks associated with C-sections should be targeted. 5. The collaboration of TMOH with professional medical organizations in conducting awareness campaigns is crucial.
Item 6: birth preparedness training (pregnancy schools)	
1. TMOH has established pregnancy schools within numerous healthcare settings. 2. TMOH's efforts to promote the widespread adoption and utilization of pregnancy schools have gained appreciation.	1. The standardization of education provided in pregnancy schools is crucial. 2. Regular assessment of the effectiveness of education given in these settings by TMOH is crucial. 3. Research examining the impact of education provided in pregnancy schools on the knowledge, attitudes, and behavior of pregnant women regarding normal delivery and C-section rate should be supported by TMOH. 4. The number of pregnancy schools has not reached the desired level yet. Attendance at pregnancy schools should be encouraged and limitations need to be addressed. 5. TMOH should increase the awareness of pregnancy schools among both pregnant women and healthcare professionals. 6. Permission issues of working mothers during work hours limiting their attendance to pregnancy schools should be addressed by legal regulations.
Item 7: fear of labor pain	
1. TMOH provides limited education on tokophobia primarily through pregnancy schools, but the limited attendance of pregnant women at these schools remains an unsolved issue.	1. Providing education on labor pain would prove to be effective. 2. Education provided in pregnancy schools regarding labor pain should regularly be assessed in terms of effectiveness, and the course content should be revised accordingly by TMOH. 3. Health authorities should emphasize that access to epidural anesthesia during labor is a fundamental right of every pregnant woman. It is crucial that every delivery setting be equipped with epidural anesthesia facilities performed by an anesthesia team. Increasing

	awareness of this option among pregnant women has the potential to change the preferences of women who opt for C-section due to fear of labor pain. 4. Competent professionals should provide appropriate counseling on labor pain to pregnant women before and during delivery. 5. Introducing the anesthesia team responsible for administering epidural anesthesia during the last trimester of pregnancy is expected to yield positive results.
Item 8: standardization of practice	
1. The labor management guide was first released in 2007. TMOH published an updated version of the guideline in collaboration.	1. It is recommended that the TMOH collaborating with professional medical organizations produce guidelines on obstetrics issues based on evidence-based medicine. 2. Collaboration of TMOH with medical associations to create comprehensive guidelines for managing non-reassuring fetal heart rate patterns is crucial. 3. TMOH should check the effectiveness of the guidelines and update the guidelines regularly.
Item 9: continuing postgraduate education of obstetricians, midwives, and healthcare personnel.	
1. Limited progress has been achieved in postgraduate training regarding high C-section rates.	1. The factors limiting progress in postgraduate education should be assessed by TMOH. 2. TMOH should emphasize continuing postgraduate education for obstetricians, midwives, and healthcare staff. Postgraduate education aiming to lower C-section rates should be standardized. 3. Covering the following topics in postgraduate medical education has the potential to yield effective results: stages of labor and periods, partograph use, Robson classification, and its purpose, negative effects of high C-section rates on maternal and child health, TOLAC, epidural anesthesia, post-term pregnancies, intermittent and continuous fetal monitoring, ID, assisted vaginal breech delivery, ECV, multiple pregnancies, evidence-based approaches to suspicious cardiotocographic patterns, evidence-based approaches to cord entanglement, meconium-stained amniotic fluid, estimated fetal birth weight and delivery type, prolonged labor, prolonged premature rupture of membranes, and weight gain and obesity in pregnancy.
Item 10: OB/GYN residency training	
1. TMOH established the board of medical specialization in collaboration with universities and other settings giving medical specialization training in 2008. 2. OB/GYN residency training was initially extended to five years which was originally four years and later reverted to four years.	**General situation** • The tendency of physicians to receive OB/GYN residency training has decreased. • Medical specialty exam scores for OB/GYN residency training applicants have declined in recent years, mainly assumed due to medicolegal risks. **Basic qualifications of residency training** • Residency training should be standardized, and residency training programs should not be offered by institutions without a specified number of vaginal deliveries.

3. Following residency training, obstetricians are required to undergo compulsory public service since 2005, which had been discontinued in 2003. 4. There have been frequent revisions in rotation periods regarding OB/GYN residency training in recent years. 5. TMOH is making efforts to standardize residency education. 6. Two official subspecialties, (perinatology, and gynecological oncologic surgery) have been established within OB/GYN specialty in 2009.	• Residents should be mandated to perform a minimum number of C-section rate-reducing interventions such as IDs or ECVs. • Education facilities must meet infrastructure requirements which should be checked by TMOH within regular time frames. **Qualifications of residency** • Graduates should leave residency as experienced obstetricians. • Residency training quotas should only be allocated to institutions with a specified number of vaginal deliveries. • Discontinuation of residency training for institutions failing to meet preset criteria should be considered, providing the opportunity for residents to transit to institutions with higher numbers of vaginal deliveries. **Duration of education** • There are objections regarding the short duration of OB/GYN residency training, an increase to five years is suggested. • The division of the specialization of OB/GYN into two separate specializations (gynecology as a sole specialization and obstetrics as another sole specialization) should be discussed as it has become extremely challenging for trainees to acquire both sets of skills during medical specialization training. **Particular required skills** • Essential skills to be gained during OB/GYN residency training should include ID, assisted vaginal breech delivery, ECV, and managing twin births especially when the first fetus is in the vertex presentation.
Item 11: instrumental delivery (ID), external cephalic version (ECV), the trial of labor after cesarean (TOLAC)	
1. TMOH finds ID, ECV, and TOLAC suggestible in particular cases but has not taken a proactive attitude toward promoting these C-section-reducing procedures.	1. ID, ECV, and TOLAC should be made available to all indicated patients, after precise identification of indications and contraindications. 2. Patients should fully be informed of the risks associated with these interventions before implementation. 3. Performing a specified number of ID, ECV, and TOLAC interventions should be required for graduating as an OB/GYN specialist. 4. Continuing postgraduate medical education programs covering ID, ECV, TOLAC and other C-section-reducing interventions should be offered to midwives and obstetricians by TMOH. 5. Enacting a law providing legal protection to obstetricians and midwives against complications arising during C-section reducing procedures such as ID, ECV, and TOLAC is recommended.
Item 12: medical laws and regulations	

1. Compulsory service is mandated after OB/GYN residency training to address physician shortages consistent with other residency training programs. 2. TMOH has implemented the health transformation program since 2003 resulting in frequent revisions in health regulations. 3. Law No. 5237, also known as the new Turkish Penal Code, was implemented in 2005. Due to legislative techniques that inadequately addressed medical malpractice, it heightened concerns about malpractice lawsuits and increased defensive medical practices among OB/GYNs. Consequently, there has been a notable increase in C-section rates since its enactment. 4. A formal sub-branch of perinatology within the OB/GYN specialty was established in 2009. 5. Compulsory medical malpractice insurance (compulsory liability insurance related to medical malpractice) has been mandatory for all physicians since 2010. 6. Legislation prohibiting elective C-sections was enacted in 2012.	1. Türkiye lacks specific medical malpractice laws and specialized courts dedicated to medical lawsuits. 2. Urgent enactment of a specific medical malpractice laws is necessary. The absence of clear legal definitions differentiating between complication and malpractice creates uncertainty. The current legal codes in the Turkish Penal Code are insufficient in addressing medical malpractice cases. 3. Establishing medically specialized courts with expertise in medical malpractice is crucial. 4. Implementing an upper limit for compensation demands in medical lawsuits is recommended. 5. Compulsory medical malpractice insurance should encompass all healthcare personnel such as midwives and nurses. Currently, only physicians are covered. 6. The coverage of compulsory medical malpractice insurance limits per case and per year should be enhanced, as the limits are inadequate in many cases. 7. No-fault reform of the medical liability system is recommended. Considering to implement a state-funded coverage for compensation requests related to deliveries could yield beneficial results. 8. TMOH should suggest legal regulations regarding C-section reducing interventions including ID and ECV. 9. Clear regulations defining the boundaries between the OB/GYN specialty and perinatology subspecialty are needed to alleviate uncertainty, particularly in malpractice cases. 10. TMOH should offer qualified attorneys and legal services free of charge for healthcare staff during medical lawsuits. 11. Healthcare personnel should be informed at the early stages of litigation processes and should be able to participate in the defense processes alongside the healthcare institution. Lawsuits are typically filed against the healthcare settings in Türkiye and there is a risk of inadequate defense if personnel are not adequately informed and involved in the defense process from the very beginning. 12. TMOH should establish standardized informed consent forms for each obstetric procedure. Allegations regarding the lack of inadequacy of informed consent forms are often claimed in lawsuits.
Item 13: fetal monitoring during the delivery	
1. The labor management guide was first released in 2007. It was updated in collaboration with	1. TMOH should collaborate with professional medical associations to publish detailed guidelines on managing non-reassuring fetal heart rate patterns. So far, a small number of guides have been published, and those published are not updated at regular intervals.

professional medical associations in 2010.	2. Studies have produced comparable outcomes using intermittent fetal monitoring compared to continuous fetal monitoring. However intermittent fetal monitoring has the potential to result in lower C-section rates. TMOH and professional medical associations should emphasize this topic and training programs for OB/GYN should include comprehensive education on this topic. 3. Legal protections should be extended to OB/GYNs and midwives regarding intermittent fetal monitoring in malpractice litigations.
Item 14: empowering midwives	
1. A new legislation granting limited powers to midwives in delivery settings and pregnancy follow-ups has been passed.	1. In countries with low C-section rates, midwives take on more responsibility and initiative in managing delivery, labor, and pregnancy follow-ups. Follow-up and delivery of low-risk pregnancies should be managed by midwives. 2. There is a necessity to augment the authority and responsibilities of midwives during delivery through legal regulations. 3. It is crucial to expand compulsory medical malpractice insurance to include midwives and all healthcare staff involved in deliveries in addition to physicians. 4. Recent enacted regulation has failed to adequately define midwives' responsibilities during both normal and assisted births, necessitating prompt attention and clarification.
Item 15: improving healthcare personnel	
1. TMOH's proactive approach to addressing the shortage and equitable distribution of healthcare personnel nationwide since the start of the Health Transformation Program is commendable. 2. Physicians are required to serve a specified duration in public settings after completing both medical school and OB/GYN residency training. 3. In recent years, numerous OB/GYNs have been employed in both state hospitals and the private sector. 4. There has been a notable rise in the number midwives of employed.	1. The appropriate number and quality of healthcare professionals have not been attained in birth settings yet. In addition, the serious problem of uneven distribution of healthcare personnel nationwide has not been solved. 2. Despite the employment of numerous newly graduated midwives in recent years, many experienced midwives transitioned to family medicine practices or retired, resulting in their absence from delivery settings. 3. Compulsory service has led to a lack of motivation and has given rise to complex issues among healthcare professionals including OB/GYNs. 4. There is a pressing need to educate and employ an adequate number of perinatologists and neonatologists within the country. Additionally, nurses, midwives, and other healthcare personnel should also be employed in sufficient numbers. 5. Many delivery settings do not adhere to eight-hour shift schedules for their personnel. It is essential to implement limited-time shifts and proper scheduling for delivery room personnel. 6. Implementing an eight-hour shift schedule has the potential to prevent OB/GYNs from favoring C-section due to their overloaded work schedule. 7. It is recommended that at least one obstetrician should be assigned to the delivery room during each eight-hour shift. This obstetrician should refrain to engage in other

5. The significant number of neonatology residents being trained is considered positive.	tasks and serve dedicated in the delivery room. C-sections required during the shift should be performed by another physician. 8. The fear of malpractice and the dissatisfaction with earnings are some of the factors discouraging physicians from serving as OB/GYNs in public settings. Consequently, many OB/GYN specialists resign from public settings and transit to the private healthcare sector, work freelance, or opt for early retirement. Addressing these issues is crucial for maintaining an adequate number of OB/GYN specialists and ensuring an equitable distribution nationwide.
Item 16: improving delivery room settings	
1. It is encouraging to note the progress in delivery room settings since the initiation of the Health Transformation Program.	1. Despite the advancements, infrastructure deficiencies persist. 2. Clinics with delivery settings should be equipped with well-organized blood banking facilities. 3. A smaller number of fully equipped delivery settings with robust facilities and experienced personnel may yield more effective results compared to numerous settings with limited resources and staff. 4. Utilizing experienced faculty members from university settings as delivery room consultants can prove beneficial. 5. It is recommended to seek a second opinion from an experienced obstetrician or head of the delivery room prior to a decision regarding C-section. 6. Delivery settings should be equipped with the adequate number of cardiotocographs, including those suitable for twin pregnancies and facilities for fetal scalp pH testing. 7. All delivery settings should be equipped with neonatal care facilities. 8. Providing opportunities for male partners to attend deliveries may enhance their support for vaginal delivery. 9. Fully equipped birth centers with organized shift hours, equal distribution of personnel for day and night shifts, and accessible services nationwide should be established.
Item 17: implementing reinforcement strategies	
Negative reinforcements 1. Obstetricians with high C-section rates were mandated to attend compulsory education sessions. The performance score of obstetricians who exceeded the preset primary C-section rate was decreased which resulted in a decrease in their total additional	1. The effectiveness of negative reinforcements and the reasons for their lack of success should be assessed thoroughly. 2. Unnecessary referrals due to defensive medicine or fear of sanctions regarding high C-section rate should be avoided. Such referrals victimize patients and overload referred institutions resulting in diversion of their focus from their primary functions.

monthly payments. These practices are currently discontinued. 2. The additional payment regarding C-section is significantly lower compared to similar interventions.	
Positive reinforcements 1. Occasional implementation of positive incentives has been provided by TMOH.	1. Due to the often-ineffective nature of negative reinforcements, research should focus on effective positive reinforcement strategies. 2. Providing economic incentives to hospitals and physicians with low C-section rates may prove to be effective.
Item 18: implementing reinforcement strategies in private hospitals	
1. Despite monitoring high C-section rates in private hospitals closely, TMOH has not taken a proactive step to address this issue.	1. The alarmingly high C-section rate in private hospitals necessitates the development of a specific action plan by TMOH. 2. Encouragement of high-quality studies on high C-section rates in private hospitals may prove to be beneficial. 3. Implementation of a special payment system tailored to private hospitals aiming to decrease C-section rates is advised. 4. Professional boards should assess the indications for C-sections for each case in private hospitals regularly. 5. Dissuasive and proportional sanctions should be applied to hospitals with high C-section rates. 6. Aiming to discourage C-sections for non-medical reasons in private settings may prove to be effective.
C-section: cesarean section, ID: instrumental delivery, ECV: external cephalic version, TMOH: Turkish Ministry of Health, TOLAC: trial of labor after cesarean, OB/GYN: Obstetrics and Gynecology	