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New family-centred approach to early childhood intervention focuses on daily functioning of children with special needs for better inclusion to society

Early Childhood Holistic Outcomes (ECHO) service and outcomes framework is pioneered by KK Women's and Children's Hospital (KKH), Thye Hua Kwan Moral Charities (THKMC) and Lien Foundation

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1. Early fruits are showing from a new holistic early childhood intervention (ECI) service and outcomes framework that focuses on achieving functional improvements in the daily lives of the children and their families, shifting the yardstick of local ECI and enhancing the practical daily functioning abilities of the children. Commissioned by the Lien Foundation, and jointly spearheaded by KK Women's and Children's Hospital (KKH) and Thye Hua Kwan Moral Charities (THKMC), ECHO provides a unified framework to measure functional outcomes and further raise the standards of ECI in Singapore.
2. ECHO has benefited more than 500 children with special needs and their families under a pilot with the Early Intervention Programme for Infant and Children (EIPIC) programme in four Thye Hua Kwan (THK) EIPIC centres that rolled out in phases since January 2015. ECHO recognises families as equal partners in the success of ECI and is the first to move the focus of ECI to functional outcomes of the child and their families, tracking measurable goals such as those impacting the child's social relationship and self-help behaviour. So far, families, social workers, teachers and professionals involved in ECHO are reporting encouraging results and feedback.
3. "With more government investments and ongoing efforts to build a more inclusive Singapore, expectations of the outcomes of early intervention programmes are set to grow considerably," said Mr Lee Poh Wah, CEO, Lien Foundation. "Based on international best practices, ECHO is a robust framework delivering quality ECI to achieve meaningful outcomes with greater accountability. Underpinned by a child and family-centred philosophy, it enables parents, professionals and policy makers to embrace a shared vision for what we are striving to

accomplish for our society's vulnerable children. This newfound unity has powered up intervention efforts with promising impact."

Why ECHO?

4. Currently, EIPIC providers use different assessment practices because of varying client profiles. The present Enhanced Programme Evaluation Systems (EPES) framework measures the child's skills/behaviours in isolation within developmental domains only in the classroom and therapy settings. ECHO is an enhancement to the current EPES model. It extends the measurement framework to monitor child outcomes across a variety of typical daily routines and activities, beyond that of a classroom setting. In addition, ECHO measures family functional outcomes. With its uniformed set of child and family outcome measures, ECHO offers a framework for enhanced service quality and optimal service delivery in ECI. This also sets the foundation for a future continuum of services for children with special needs and their families.

What is ECHO?

5. Backed by international evidence-based recommendations for ECI, the ECHO framework is a pioneering push for a paradigm shift in Singapore's ECI practices. KKH has based ECHO on the Early Childhood Outcomes (ECO) framework adopted by the United States (U.S.) Office of Special Education Programs¹. The ECHO project in Singapore received assistance and advice from The Early Childhood Technical Assistance (ECTA) Center and Dr. Robin McWilliam, International Purveyor, Routines-Based Model.
6. "ECHO advocates the importance of family involvement and establishment of a framework to maximise quality of support and evaluate the effectiveness of ECI services. Through ECHO, we hope to optimise the potential of children with special needs, and provide them and their families timely access to effective and family-centred ECI services," said Associate Professor Lim Sok Bee, Senior Mentor and Senior Consultant, Department of Child Development (DCD), KKH.
7. ECHO aims to:
 - a) Enhance practical outcomes and quality of the EIPIC programme
 - b) Promote a holistic functional approach in assessing and supporting a child and the family
 - c) Build capability of early intervention professionals
 - d) Align practices with evidence-based ECI recommendations

¹ www.ectacenter.org

8. Going beyond the current EPES framework of measuring the children's developmental domains (e.g., gross motor, fine motor skills), the ECHO framework evaluates the progress of the child based on the following child and family outcomes:
- a) Outcomes for the Child
 - Having positive social-emotional relationships;
 - Acquiring and using knowledge; and
 - Using appropriate behaviour to meet needs
 - b) Outcomes for the Families
 - Understanding their child's strengths, abilities and special needs;
 - Helping their child develop and learn; and
 - Knowing how to communicate their child's needs to others, and accessing relevant services and support

An enhanced approach to early childhood intervention with ECHO

9. ECHO contributes towards meeting the strategic thrusts recommended for 'Early Intervention for Children with Special Needs' in Singapore's Enabling Masterplan 2012-2016². It promotes family involvement and enables them to be active participants in their child's learning, and also establishes a framework for service standards and monitoring through a functional early intervention model and outcome measurement system.
10. Firstly, ECHO brings together a trans-disciplinary collaboration between ECI professionals, such as social workers, teachers, allied health professionals, psychologists, and significant others in the child's life, including family and primary caregivers. This strong emphasis on equal partnership between professionals and caregivers is the hallmark of best-evidenced form of family-centred practices. Such collaboration is key to helping the child develop and generalise functional skills for success in their daily school, family and community lives.
11. Secondly, the ECHO framework emphasises integrated functional behavioural learning in the natural environment (i.e. home, EIPIIC centre, school, community) through an activity and routine-based approach.

² Enabling Masterplan 2012-2016, Early Intervention for Children with Special Needs, Strategic Thrust 3 and 4, Pg 27-29, [https://app.msf.gov.sg/Portals/0/Topic/Issues/EDGD/Enabling%20Masterplan%202012-2016%20Report%20\(8%20Mar\).pdf](https://app.msf.gov.sg/Portals/0/Topic/Issues/EDGD/Enabling%20Masterplan%202012-2016%20Report%20(8%20Mar).pdf)

12. Thirdly, the ECHO framework emphasises that outcome measurement processes are an integral part of daily ECI services. Outcome data is useful for individualised intervention planning as well as progress monitoring of each child. This ushers in a new era of programme evaluation.

Family involvement makes a difference

13. ECHO's emphasis on functional outcomes not only gives a holistic view about the child's ability to integrate and use various skills meaningfully in daily life settings, it also draws upon the input and support of the child's main caregivers in charting and assessing his/her overall progress.
14. Dr Lim Hong Huay, Consultant, DCD, KKH said, "Parents are the child's first teachers. They will share more time with their child than any other teacher or caregiver in the whole lifespan of their child. Hence they can be the best resource in a child's life. It is well established by research since the 1970s that parental involvement is the key to success of early intervention and early childhood education. Good family outcomes are highly correlated with better child outcomes. In ECHO, we recognise the family as equal and important partners in early intervention. Enhancing family-professional collaboration through routine and activity-based approach is one of the key strategies in the ECHO framework to enhance family and child outcomes."
15. ECHO's approach represents a paradigm shift in ECI practices to align with the international trend towards social and educational inclusion, leading to meaningful functional improvement in daily lives and better integration into the community and mainstream education.

THK children gain from ECHO

16. The ECHO framework was initiated in February 2014, and since then, it has benefitted more than 500 families and 100 professionals at the THK EIPIC Centre. "We have had positive feedback from the staff and families of the children who have followed the ECHO framework in our EIPIC Centres and they are excited about how ECHO has yielded better outcomes for the children and their families", said Mr Lee Kim Siang, Chairman of Thye Hua Kwan Group of Charities.
17. Teachers are encouraged by how ECHO has boosted the way they can support the children's development in a holistic way. "In the past, we would examine if the child has reached the milestone of developing fine-motor skills such as the pincer grip. Now with ECHO, our focus is whether the child is able to feed himself using the pincer grip during snack time at home and at

the Centre. We've modified our intervention approaches towards the child attaining daily functioning," said Ms Low Hwee San, THK EIPIC Centre's Assistant Director (Teaching).

18. She added, "ECHO has also sharpened our skills in observing the children's behaviour and interests, planning classroom activities and individualising intervention for better functional outcomes. Families and professionals now work hand-in-hand towards common functional goals. We can see the relevance of our work to the lives of the children and their families even more clearly, and this is a great encouragement."

New Routines-Based Interviews (RBI) to individualise ECHO goals and review outcomes

19. One of the new processes introduced with ECHO to better engage families is the routines-based interview (RBI). RBI is a semi-structured interview conducted at the homes of the children. Through the use of RBI, social workers and professionals actively engage families to share their challenges and priorities. Through the interviews, the social workers and professionals are more able to appreciate the lives of the children and their families as well as obtain crucial information about how the child functions at home and in the community.
20. Rapport is also built during the interviews as the first seeds are planted about possible avenues of change as parents gain insight into their child's development. After the interview, the goals for the child and family will be set based on parents' priorities discussed during the interview. Possible strategies will be shared with the parents so that they are empowered to implement the goals for the child in the home and community setting. The team also seeks parents' feedback on how the strategies are working out for them. Through the setting of these functional goals for the child and family, the beginning of an equal partnership is established.

Empowering parents as partners in early intervention

21. With ECHO, parents have a greater sense of empowerment as they are actively involved in the intervention planning and delivery process. Ms Audrey De Cruz, senior social worker at THK EIPIC said, "ECHO has expanded our way of thinking. Now, we not only look at developing the child in terms of his or her fine or gross motor ability, cognitive ability and so on. We are also very mindful that the best outcomes are reached when we integrate learning and skills training within the child's daily routines. This also means that as ECI professionals, we need to build up our links with key individuals in the child's life so they too can learn creative ways to teach children skills and concepts seamlessly throughout the day. This can often lead to very exciting collaboration with not only parents but childcare and preschool staff. ECHO is a good direction

to take if we want children with special needs to gain adequate skills and grow in confidence and to be excited when it comes to learning!”

22. Parent, Mdm Belinda Lam, whose daughter enrolled in THK EIPIC Centre @ Ang Mo Kio in July this year said, “We gained a lot from the social workers’ visit when they came to observe our home environment and conduct the RBI. They were able to better understand my daughter’s daily routine and what she is like at home. We also had the chance to set common goals for what we hoped my daughter could achieve through the EIPIC programme.”
23. She added, “We communicate and work very closely with my daughter’s teacher. Her strategies on how we can help my child in her daily routines are very useful. I feel like we are a team working together to meet my daughter’s intervention and learning needs.”

ECHO - Setting the foundation for a better future

24. More children with special needs can benefit from the shift towards achieving child and family functional outcomes. ECHO’s holistic functional child outcomes are aligned with the key stage outcomes for preschool education (Nurturing Early Learners Framework 2012)³ and the 21st century competencies (2010)⁴, as well as the World Health Organisation’s International Classification of Functioning, Disability and Health (2001)⁵. With ECHO, the stage is now set for ECI in Singapore to progress with new standards.

Annex A - Factsheet on the ECHO framework

Annex B - Glossary of terms

www.echoframework.sg

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³ <https://www.moe.gov.sg/docs/default-source/document/education/preschool/files/kindergarten-curriculum-framework-guide-for-parents.pdf> (page 8)

⁴ <https://www.moe.gov.sg/docs/default-source/document/education/21cc/files/annex-21cc-framework.pdf> (Annex C)

⁵ <http://www.who.int/classifications/icf/icfbeginnersguide.pdf?ua=1>

ABOUT THE LIEN FOUNDATION

www.lienfoundation.org

The Lien Foundation is a Singapore philanthropic house noted for its model of radical philanthropy. It breaks new ground by investing in innovative solutions, convening strategic partnerships and catalysing action on social and environmental challenges. The Foundation seeks to foster exemplary early childhood education, excellence in eldercare and effective environmental sustainability in water and sanitation. In the area of early childhood education, the Foundation aims to create a better playing field by strengthening capacity in this area and opening up opportunities for disadvantaged preschoolers. In June 2012, the Lien Foundation released a global benchmark study called "Starting Well" that ranked 45 countries on their provision of preschool education.

To advocate greater access to quality early childhood education, the Foundation commissioned a study, "Vital Voices for Vital Years" that examined leaders' views on improving Singapore's preschool sector. The use of I.T forms a key strategy in the Foundation's efforts to increase efficiencies and enhance professionalism in the preschool sector. The Foundation has championed a community based model of care where specialists go into mainstream preschools to help children with learning difficulties. Its success has inspired a scaled-up national version in Singapore.

ABOUT KK CHILDREN'S AND WOMEN'S HOSPITAL

www.kkh.com.sg

KK Women's and Children's Hospital (KKH) is Singapore's largest tertiary referral centre and a recognised leader in Obstetrics, Gynaecology, Paediatrics and Neonatology. Founded in 1858, the 830-bed academic medical institution leads in the patient-centric treatment of high risk conditions in women and children. More than 600 specialists adopt a multi-disciplinary and holistic approach to treatment, and harness compassion, medical innovations and technology to deliver the best medical care possible.

Accredited as an Academic Medical Centre, KKH is a major teaching hospital for all three medical schools in Singapore, Duke-NUS Medical School, Yong Loo Lin School of Medicine and Lee Kong Chian School of Medicine. The Hospital also runs the largest specialist training programme for Obstetrics and Gynaecology and Paediatrics in the country. Both programmes are accredited by the Accreditation Council for Graduate Medical Education International (ACGME-I), and are highly rated for the high quality of clinical teaching and the commitment to translational research.

The KKH Department of Child Development (DCD) with its multi-disciplinary team of paediatricians, psychologists and therapists seeks to deliver integrated holistic services with compassion, to children with developmental needs, supported by clinical excellence, education and innovation. DCD cares for about 80 percent of these children through Ministry of Health's Child Development Programme.

ABOUT THYE HUA KWAN MORAL CHARITIES

www.thkmc.org.sg

Thye Hua Kwan Moral Charities (THKMC) is the social service charity arm of Thye Hua Kwan Moral Society (THKMS). Since October 2011, Thye Hua Kwan Moral Charities (THKMC) was incorporated as a charity with IPC status to provide multiple social and welfare services to the community at large.

THKMC provides assistance to the various groups in our community through more than 50 services and programmes for adults, families, elderly and persons with disability. These include 2 welfare homes, 5 Family Service Centres, 14 Senior Activity Centres, 4 Centres for Early intervention Programmes for Infants and Children, Home Care services, therapy services as well as counselling services for individuals and families affected by divorce and problem gambling.