Paediatric transport (PT) brings human and material resources to the locations where they are needed, and additionally, brings the ill child to where these resources are, which is particularly important when intensive care or emergency surgery are required. For this reason, PT is a key link in the chain of survival of the severely ill child and in providing continuity of care.²

Paediatric transport must be viewed as a complex healthcare process and its development is linked to specific domestic policies and health care models, therefore the approaches of other countries cannot be implemented in their entirety in Spain. Ensuring quality and efficiency in PT requires optimum organisation: defining objectives (both general and operational), transport team, equipment, transport protocol, coordination, and evaluation. And to implement it properly requires political willingness and availability of resources.

General objectives must include equity, healthcare quality, efficiency and patient and provider satisfaction, while operational objectives pertain to the child (such as immediate survival) or the transport process (such as the efficient use of resources). The safety of the child and the transport team is a priority, with the prevention of complications as the main focus, as seen in the article by Carreras et al. published in this issue of Anales de Pediatria.³ This article concerns complications arising during helicopter transfer, and reports a low rate of major complications (5%) that the authors attribute to the application of a rigorous protocol for prior stabilisation.

Achieving the operational goals requires professionals qualified in pediatric care and established protocols for transport. Following a survey in 2006, the Sociedad Española de Cuidados Intensivos Pediátricos (Spanish Society of Paediatric Intensive Care [SECIP]) recommended forming specialised teams of paediatricians and nurses with training in paediatric and neonatal critical care. There is evidence supporting the advantages of PT performed by specialised teams. It stands to reason, as the success of the process depends largely on foresight and stabilisation prior to transport, both of which require knowledge of the child and his or her pathology, and competence in life support techniques and procedures.

Foresight, which aims at preventing potential future complications, must be employed in all phases of PT, and the probability of human errors should be reduced through the use of checklists. Carreras et al. present foresight, in combination with correct stabilisation and careful monitoring, as a key element in the prevention of complications. On the other hand, prior stabilisation is necessary for safe transport, as advanced interventions such as intubation or...
central venous access may be required, if only infrequently
(less than 25% of patients in the Carreras et al. series; which
is consistent with the experience of other paediatric teams).

The suitability of a PT system can be assessed by its
degree of universality, as it pertains to a territory and age
can range (covering the full territory and all paediatric age
groups, from neonates to adolescents), specificity (system
solely dedicated to PT) and specialisation (care delivered by
paediatricians and paediatric nurses). In Spain, the degree of
suitability of public PT is not homogeneous. While it is
ture that children have been, are, and will continue to be
transported, most autonomous communities (ACs) do not
have a structured PT system which is universal, specific, or
specialised. Nonetheless, some ACs have developed systems
whose main features are described below in chronological
order:

- Cataluña (1995): coordinated by the Sistema d’Emergencies Mèdiques (Medical Emergencies Sys-
tem [SEM]): covers Catalonia; paediatric and neonatal
transport; ground and air transport; paediatricians
and paediatric nurses (air and ground transport); ambulances
and technicians specially devoted to PT.
- Baleares (2004): coordinated by 061-Baleares; covers
the Balearic Islands; neonatal and paediatric
transport; air and ground transport; paediatricians and paediatric
nurses.
- Madrid (2007): coordinated by SUMMA-112; covers
the Region of Madrid; neonatal transport; ground transport;
paediatricians.
- Valencia (2008): coordinated by SAMU; covers the
provinces of Valencia and Castellon; neonatal transport,
ground transport, and paediatricians.

A universal, specific, and specialised model has been
established in Catalonia. Three paediatric teams (SEMPs)
are currently in operation, based at 3 hospitals in Barcelona:
SEMP-Vall d’Hebron (ambulance), SEMP-Sant Joan de Déu
(ambulance) and SEMP-Sant Pau (helicopter; its experience
is partially addressed in the paper by Carreras et al.).

So far, we have learned much from the SEMP; it provides
visibility to hospitals that have a PT team, offers training
opportunities to the sending hospitals, and acts as an
observatory of trends in paediatric and neonatal care. Hav-
ing said that, there are areas for improvement. The system
must be optimised to increase efficiency, and quality man-
agement must be enhanced, especially in the classification
of the patient prior to transfer, the definition of standards
and indicators, and the documentation of complications, in
the same line as that described by Carreras et al. We also
face upcoming challenges, such as prehospital emergency
care, and incorporating training in patient transport into the
paediatrics MIR (Spanish medical residency programme).

Ultimately, PT is an indispensable element of continuity
of care, especially for severely ill children; it has a method-
ology of its own, requires specific resources, and improves
when performed by paediatric teams. Having a PT team adds
to hospitals and is a source of challenges and oppor-
tunities for professionals. The PT model in Catalonia, which
revolves around critical care paediatricians and neonatolo-
gists, has generated public and professional satisfaction, has
demonstrated its effectiveness, and can serve as a benchmark
for other ACs.

From the perspective of healthcare policy, a PT pro-
gramme is a commitment to citizens, ensures greater
equality across a given territory (regionalisation), and ought
to be seen as an instrument and not an end in itself; it can
be expected to meet the transport requirements of a child,
but not to fix structural problems in the healthcare system.
The model must adjust to the needs, resources, and partic-
ularities of the autonomous community, taking into account
its individual geographical, demographic, and economic cir-
cumstances. Furthermore, it must be developed within the
larger context of the existing healthcare system, the speci-
ficities of its emergency care system, and the interest and
commitment of paediatricians. At any rate, existing politi-
cal willingness is a key factor in the decision to implement
a PT system and the type of model to be adopted.

With a view to the full development of PT in Spain,
paediatricians, with the support of scientific societies (AEP,
SEN, SECIP, SEUP, and others), must strive to ensure that
this political willingness and an alliance with medical
emergency systems give rise to the generalised imple-
mementation of a PT system in the short term. It may be
unreasonable to expect the implementation of a univer-
sal, specific, and specialised model in each AC, but if we
assess previous experience and avoid repeating past mis-
takes, suitable systems may be developed for each one of
them. ACs that already have PT systems must strive
to keep advancing and the rest must commit seriously to
documenting and disseminating the existing status of paedi-
atria and neonatal transport in their region, with an
emphasis on the observed complications and the immedi-
ate outcomes. In this regard, the survey proposed by the
Red Iberoamericana de Transporte Pediátrico (Latin Ameri-
can Paediatric Transport Network [RITRANSPED]), available
at https://www.secip.com/, could be a first step. It can help
health policy authorities understand the need to implement
some PT system in those ACs that are still lacking one.

It is no easy task, but the results will be worth it, and our
young patients will appreciate it.

References

1. Renter Valdivinos L, Gil Juanmiquel L, Rodrigo García R,
Dominguez Sampedro P. Transporte del niño críticamente
enfermo. In: López-Herce Cid J, Calvo Rey C, Rey Galán C,
Rodríguez Núñez A, Baltodano Agüero A, editors. Manual de
2. Moreno Hernando J, Thió Lluch M, Salguero García E, Rite
Recomendaciones sobre transporte neonatal. An Pediatr (Barc).
Prevención de complicaciones en el transporte interhospitala-
 rio aéreo del paciente crítico pediátrico. An Pediatr (Barc).
4. Brandstrup Auerzo KB, Dominguez P, Calvo C. Estabilización y
transporte interhospitalario del neonato y niño critico. Rev Esp
5. Iglesias Serrano I, Sánchez Hernández S, Pérez Batlló J,
Dominguez Sampedro P. El SEM Pediátrico: La respuesta del Sis-
tema d’Emergencies Mèdiques de Cataluña a la necesidad de
transporte interhospitalario de recién nacidos y niños críticos.
Rescate Vital. 2012;26:8–12.