Pediatric Diabetes

ISPAD International Society for Pediatric and Adolescent Diabetes

Pediatric Diabetes 2012: 13(Suppl. 16): 29–38
doi: 10.1111/j.1399-5448.2012.00910.x

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Original Article

Good practice recommendations on paediatric training programmes for health care professionals in the EU

Waldron S, Rurik I, Madacsy L, Donnasson-Eudes S, Rosu M, Skovlund SE, Pankowska E, Allgrove J, the SWEET group. Good practice recommendations on paediatric training programmes for health care professionals in the EU.
Pediatric Diabetes 2012: 13 (Suppl. 16): 29–38.

Part of the SWEET Project: EU (European Union), *Better Control in Paediatric and Adolescent Diabetes: Working to Create Centres of Reference*, was specifically to examine the training of health care professionals (HCPs) across the EU. Several types of information were collected during 2009, and these included a literature search, workshops of the SWEET members, examination of the data collected by the Hvidøre Study Group and the Diabetes Attitudes, Wishes, and Needs (DAWN) Youth initiative, and a questionnaire distributed to SWEET members and professional colleagues who cared for children and young people (CYP) with diabetes. It was clear from the information collected that there was no European or global consensus either on a curriculum for the training of the paediatric diabetes multidisciplinary team (MDT) or individual professions in paediatric diabetes. A minority of countries had well-established training but, for the majority, there was little standardisation or accreditation. Moreover, most countries did not have available courses for training the diabetes MDT and training was not mandatory. Of the courses that were available more were accredited for doctors and nurses but fewer for the other professions. As a consequence, the majority of HCP posts in paediatric diabetes do not demand prior experience in the specialty. Standardised accredited training and continuous professional development (CPD) opportunities are severely limited. The SWEET Project supports a standardised, accredited approach to training and CPD of the MDT and for individual professions. As a consequence, a curriculum for the training of the MDT was developed, and this is now ready for implementation.

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Key words: children – multidisciplinary – recommendations – standards – SWEET – training – type 1 diabetes

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Submitted 5 April 2012. Accepted for publication 16 April 2012

Introduction

There is a general agreement that a paediatric diabetes multidisciplinary team (MDT) is necessary to select the proper treatment regimen for a child with diabetes and their family, train all caregivers in daily management, and continually motivate the CYP with diabetes and parents/guardians to optimise treatment further. Overall, an educator support system appears crucial for success in many aspects of paediatric diabetology (1). Treatment outcomes have to be reviewed regularly with the CYP and parents in order to make conclusions regarding diabetes management and to make the appropriate changes (1).

Despite uniform agreement on the role of diabetes education, within the European Union (EU) there are considerable differences between the training programmes for health care professionals (HCPs) who have responsibility for the care of CYP with diabetes. Recognising these differences, the SWEET Project (2) was set up in 2008 with the principal aim of establishing Centres of Reference in order to improve standards of care for all CYP across the EU.

The SWEET Project had assigned a separate work package (WP 4) with specific aims in relation to the training of HCPs. In the first stage, the current training programmes in individual EU countries needed to be identified. In addition to documenting the differences between them, the most important critical issues that affect training should be recognised in order to develop and agree on a suitable training programme that can be used across the EU and to make recommendations for future training. This paper presents the results of these aims and makes recommendations for the future.

Methods

To fulfil the aims, the following five methods were used: literature search, workshops, examination of the data from the Hvidøre Study Group on Childhood Diabetes (3), examination of the data from the DAWN Youth Study (4), as well as a questionnaire specifically designed for this purpose.

Literature search

An extensive literature search using PubMed was undertaken to identify published guidelines and publications that related to training requirements in Paediatric Diabetes. This search was undertaken via the internet, established diabetes organisations, and contacts within the profession. In addition, the contents of the certificated programmes for training HCPs in paediatric diabetes within the UK were obtained.

Workshops

Three workshops were held; the participants of which were members of the MDT from all 13 participating SWEET countries. There were three aims: first, to describe current training programmes for HCPs, second to compare and contrast training programmes in different countries, and finally to identify the critical issues that affect paediatric diabetes HCP training.

During each workshop, one participant from the MDT from each country was asked to give a brief outline of their current training programmes. The presentation included the content, how it is delivered, what methods are used for assessing it, which bodies are involved in administering it and, where relevant, who performs the accreditation. Details of these presentations are included in the SWEET WP 4 Report on the SWEET website (2). The workshops then examined the principal critical issues relating to HCP training across the SWEET countries using a critical issues matrix (5).

Hvidøre Study Group on Childhood Diabetes

Dr Peter Swift, UK, Chair of the Hvidøre Study Group, was contacted to present relevant data from the Hvidøre International Childhood Diabetes Study Group.

DAWN Youth Initiative

Søren E Skovlund, Behavioural Scientist, Novo Nordisk, Copenhagen, and lead for the DAWN Youth Initiative, provided relevant data from the study about the attitudes, wishes and needs of young people with diabetes, their parents, and the opinions of HCPs. The DAWN Youth Initiative aims to improve the health and quality of life by overcoming the psychosocial barriers to optimal self-management and quality of life.

Questionnaire

A questionnaire collected information on the training of HCPs and the paediatric diabetes clinical service. Details of the full questionnaire can be found on

the SWEET website (2). The sections included clinic demography, organisation and standards of care, MDT working, HCP training and accreditation, continuous professional development (CPD) of HCPs, and future developments.

The questionnaire was designed by a MDT of clinical experts in paediatric diabetes. It was based on questions that had face validity and, although not piloted, a 'test and re-test' of its reproducibility was performed. Distribution was via e-mail in September 2009 to all members of the SWEET Project and to an extended group of professional colleagues in paediatric diabetes across Europe. In addition, the questionnaire was distributed more widely across the UK via a wide range of professional paediatric diabetes networks. A random selection of 10 UK respondents was included in the final analysis in order to prevent bias towards the UK.

Results

Literature search

Currently available guidelines. The following are all comprehensive guidelines that cover the broad field of paediatric diabetes and were reviewed extensively in the paper by de Beaufort et al. (6). These were the International Society for Paediatric and Adolescent Diabetes (ISPAD) (7), the Australasian Paediatric Endocrine Group (APEG) (8), the National Institute for Clinical Excellence, UK (NICE) (9), the German Diabetes Association (10), and the American Diabetes Association (ADA) (11). In addition, there were several other guidelines/documents that refer to more specific aspects of diabetes care. These include the joint Lawson-Wilkins Pediatric Endocrine Society/European Society for Paediatric Endocrinology (LWPES/ESPE) Guidelines for the Treatment of Diabetic Ketoacidosis (12), the Clinical guideline: Psychosocial Factors and Diabetes Mellitus of the German Diabetes Association (13), the Evidence-based guidelines of the German Diabetes Association: Psychosocial Factors and Diabetes Mellitus (14), the Paediatric Diabetes, Royal College of Nursing (RCN) Guidance for Newly Appointed Nurse Specialists (15), the Specialist Nursing Services for Children and Young People with Diabetes (16), Supporting Children and Young People with Diabetes: Guidance for Nurses in Schools and Early Years Settings (17), Making Every Young Person with Diabetes Matter: report of the Children and Young People with Diabetes Working Group (18), National Service Framework for Children, Young People, and Maternity Services: Type 1 Diabetes in Childhood and Adolescents (19), NICE Type 1 Diabetes: Diagnosis and Management of Type 1 Diabetes in Children and Young People (20), Emotional and Psychological Support and Care in Diabetes: report from the Emotional and Psychological Support Working Group, NHS Diabetes and Diabetes UK (21), and the DAWN Study Group-Changing Diabetes through DAWN Youth: Addressing the Attitudes, Wishes, and Needs of CYP with Diabetes Worldwide (22).

All of these include comprehensive guidance about the various aspects of paediatric diabetes, but none of these either constitutes a curriculum or specifies which team members should have training in which knowledge, skills, and competencies.

Current training programmes for HCPs. In many instances, the documents related to diabetes curricula were for diabetes in general and not specifically to paediatrics. These included publications by the International Diabetes Federation (IDF): International Curriculum for Diabetes Health Professional Education. This was the most comprehensive curriculum for HCPs and includes a module specifically on 'Diabetes in Children and Adolescents' (23). Furthermore, the IDF: International Standards for Diabetes Education (24) and the European Training Syllabus (ETS) in Paediatric Endocrinology and Diabetes (25) were reviewed. The ETS document relates to both diabetes and endocrinology. It defines two levels of training, foundation and advanced. Diabetes is included in the foundation section. Other curricula include the Royal College of Paediatrics and Child Health (RCPCH) Curriculum for Paediatric Training Paediatric Diabetes and Endocrinology (26) and the RCPCH Draft Training Curriculum in Paediatric Diabetes (27). The RCPCH documents provide a broad basis for a curriculum in paediatric diabetes but no comprehensive detail. For allied health professionals, the Training Research and Education for Nurses in Diabetes (TREND) (28) document is available in the UK. This document relates solely to nursing training. It provides a hierarchical structure for a curriculum with five levels of competency. The Diabetes UK Healthcare Professional Education Working Group: An Integrated Career and Competency Framework for Dietitians and Frontline Staff (29) has a section specifically for CYP and the Skills for Health constituting 85 separate documents of which 17 relate directly to CYP (30). Of these documents, only those from the ETS, RCPCH, and Diabetes UK refer exclusively to paediatric diabetes (with or without endocrinology included).

Workshops

Current training programmes. The workshops were designed to compare and contrast the training of HCPs. There was great diversity across countries, from highly organised health care systems, registers, education for CYP, data collection for CYP and HCP education to fragmented systems with little or no overall coordination of service provision. There was also a lack

of standardisation within and between countries. Only 3 of 13 SWEET countries had a MDT team training course for all HCPs when they start their post and, of those where courses were available, only one country said it was mandatory for all team members to attend.

Examples of good practice were countries that had developed a complete framework for the education of CYP and HCPs. These systems involved experience with children's diabetes before entering a HCP post followed by MDT training and training in individual professions as well as mandatory accreditation by officially recognised bodies and practical training in accredited diabetes centres and specified CPD. Annual data are published on the outcomes of all programmes, and paediatric diabetes is included in National Diabetes Programmes. Consequently, all HCPs are trained to the same high standard. Germany has invested in this type of standardised approach of education for CYP, families, and HCPs, and over the past decade data indicate a positive effect on diabetes outcomes. Germany has also adopted a legal premise that, since 2007, there is a: 'Legal right for every patient with Type 1 diabetes to get a structured, specific and evaluated diabetes education'. Establishing a legal right to education in diabetes care gives impetus to quality-assured training of HCPs.

Compared with this all encompassing framework, great diversity was seen in many other countries. The majority of countries had strong accredited medical training, some nurse training, but little for other disciplines such as dietitians and psychologists. Indeed, very few countries had established training for the MDT. It was also extremely unusual that one governing body had sole responsibility for the overall training of all HCPs. For most, training was not mandatory to get a post in paediatric diabetes. There was also a variety of standards of education being used across courses of education, e.g., European Standards such as the ETS in Paediatric Endocrinology and Diabetes (31) and the Bologna Education Principles (32).

Many small centres existed without MDTs, but a further factor that hindered the development of a paediatric MDT was the lack of a dietetic profession in some countries. There were also countries where CYP were cared for by the adult services.

CPD was not mandatory in the majority of countries and showed great diversity. It was mainly the medical profession that had to demonstrate competency to practise. Some countries were highly organised with accreditation procedures, whereas some just attended meetings.

Commercial companies also organise and support a considerable amount of initial and continuous training to MDTs and individual professions. They play a unique and important role in supporting training especially in countries where there is no specific or standardised approach.

Table 1. Critical issue list

1. There needs to be a precise definition of what constitutes an effective multidisciplinary team (MDT) and interdisciplinary team (IDT). What knowledge and skills do health care professionals require to deliver high-quality education?
2. There are no structured accredited programmes of education (theory and practice) for the core MDT and the IDT.
3. The programme, the method used for delivery, quality indicators, and evaluation of the course, its trainers, and participants need to be defined.
4. There is no structured continuous professional development.
5. The current intracentre networks necessary to facilitate sharing of good practice and audit of outcomes are insufficient.
6. There is a limited availability of trained diabetes staff and, because staffing levels are poor, it is often difficult to release staff to be trained.
7. There is a lack of integrated care between in-patient and out-patient teams.
8. There is no National Plan/Programme for paediatric diabetes.

Table 2. Critical issue matrix analysis

	Impact		
Urgency	Low	Significant	High importance
Low		6	8
Significant	5	7	3
High importance	1	2	4

Critical issues that affect high-quality paediatric diabetes HCP training. In the workshops, 17 critical issues were identified and 8 were selected as a priority as shown in Table 1. The Critical Issue Matrix Analysis tool was then used to prioritise these issues as shown in Table 2.

Hvidøre Study Group on Children's Diabetes Data

The first paper in 1997 (33) showed that there was great variation in mean HbA1c from 7.4 to 9.1% in 2873 CYP with diabetes between centres in 21 countries. However, in the centres where CYP had lower HbA1c they did not necessarily have higher rates of hypoglycaemia. The subsequent Hvidøre studies have systematically examined why the centres were so different but centre differences still persist (34, 35). To date, all the Hvidøre studies suggest that positive outcomes are influenced by consistent messages and philosophies by all team members, good psychosocial support, targets, and structured consistent education to achieve active self-management (36).

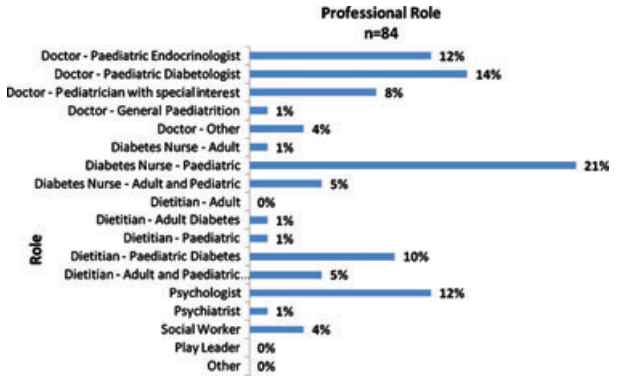

Fig. 1. Professional roles of the respondents to the questionnaire.

DAWN Youth Data

The DAWN Youth Initiative (4) aims to improve the health and quality of life of all CYP with diabetes or who are at risk by addressing the psychosocial barriers to self-care, examining their wishes and needs, and translating them into concrete actions. The workshop unanimously agreed that it is essential during training that these important data are used as part of a core curriculum when training HCPs.

Questionnaire

Eighty-four responses were received and analysed from HCPs from the EU. The respondents are described in Fig. 1.

Clinic population and team functioning. Respondents worked in clinics of varying sizes. Eighty-one percent worked in units where numbers were >150 CYP. Of these, 35% worked in large units of >400 CYP, 52% thought that the ideal clinic size was between 150 and 400 patients, while only 14% thought that >400 CYP were ideal.

The majority reported working as a team, but fewer respondents described activities that showed they functioned as a team. In detail, 98% believed that they worked in an integrated, cohesive MDT and 93% had agreed targets for their CYP. Eighty-nine percent had a focussed, agreed philosophy but only 53% were part of a local, national, and/or international network that compares clinical outcomes and no more than 46% held case study meetings. Only 41% had team business meetings and merely 6% had journal clubs.

Health care professional training in paediatric diabetes

Accredited training. There are huge discrepancies between the available accredited training programmes for different professionals. Figure 2 illustrates the amount of accredited training that each professional group could access. Doctors and nurses had the most access to accredited courses. The accrediting bodies also varied enormously from academic units (universities), government bodies, diabetes associations, and clinical professional colleges. Again, the length of courses varied from 1 day to 3 years.

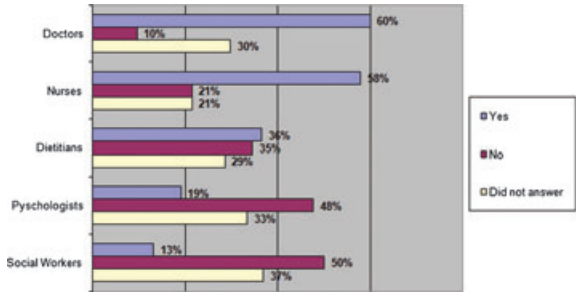

Fig. 2. Accredited training available to each health care professional groups specifically working with children and young people with diabetes.

Respondents reported their experience prior to taking up a paediatric diabetes post. Sixty-five percent of HCPs were not required to have specific training and 58% of HCPs had not had any accredited training. A total of 55% of HCPs were appointed to posts that were not dependent on them having undergone accredited training.

Lack of trained HCPs. Some health care professions did not exist in certain countries, e.g., dietitians in Romania, and the profession was just beginning in Poland. Many commented that psychologists were needed that had training in CYP with diabetes. Many services had nurses that had no training in paediatric diabetes as illustrated by the following quotes: 'We are at the beginning!' or 'These are nurses (RN), which learned from books, journals and from experience from other nurses (RN)'.

Reasons for lack of training. A variety of reasons were given for difficulties in obtaining suitable training. The majority (73%) reported lack of time, 60% no appropriate guidance from the government or professional bodies, 60% poor staffing levels, and 60% lack of local funding and facilities.

Continuous professional development. Only 26% of respondents received an annual individual learning and development plan to strengthen their paediatric diabetes knowledge, skills, and competencies and 54% were not required to collect any information. Amongst the HCPs that did document their CPD, a variety of methods was used to illustrate their competency. The largest number (42%) used a written portfolio, followed by peer review and mentorship (24 and 24%, respectively). Only 45% of respondents were aware of any national criteria for assessment of CPD. Most

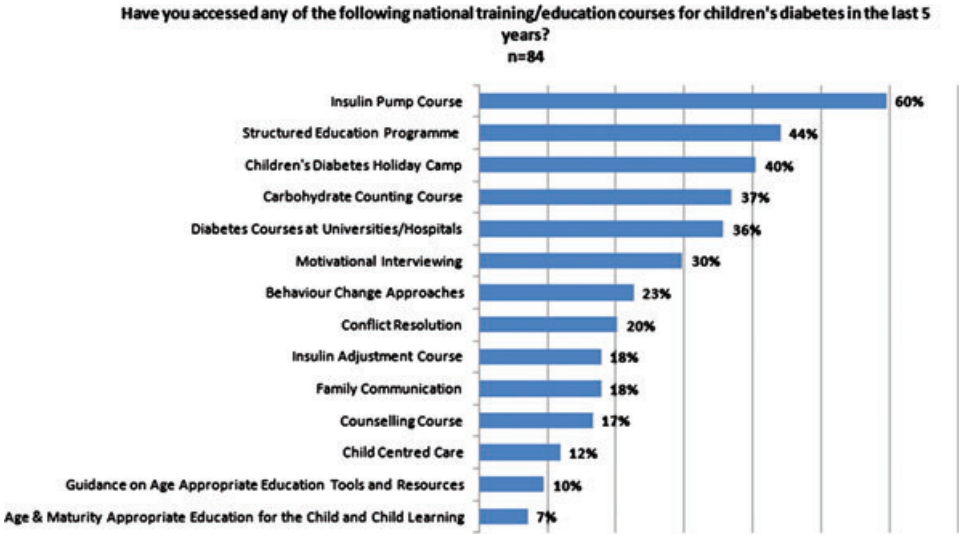

Fig. 3. Training and courses accessed by health care professionals in the last 5 yr.

respondents attended national (86%) or international (69%) meetings. A variety of people and organisations was involved in the assessment of CPD including local diabetes teams, diabetes associations, hospitals, and national professional associations. Respondents were using journals, courses, scientific meetings, and professional societies for CPD information.

A variety of courses had been accessed in the last 5 years (Fig. 3); many of these courses were short (1–3 days). Most insulin pump courses were supplied by pump companies, and other courses, such as Structured Education programmes and carbohydrate counting courses, were supplied by diabetes associations, local diabetes teams, or corporate sponsorship. Only a small minority of respondents attended courses on age and maturity appropriate education, psychosocial care, family communication, and counselling courses.

Future development and recommendations for the training of HCPs. Describing their wishes about the future training of HCPs, 97% of the respondents wished a system of accredited structured education for the MDT, 96% a national plan for diabetes including guidelines, criteria for care, education for CYP and HCPs, 86% national or government endorsed MDT training that is certified by a university, and 69% national or government certified advanced training for individual professions. Sixty-one percent identified further training needs: self-care and counselling in CYP, behavioural approaches, dietary management, patient education, family communication/conflict resolution, group facilitation skills, pump training, or continuous glucose monitoring systems. Table 3 synthesises the data collected in WP 4 and describes the recommendations that are made to improve the training of HCPs. Details can be found on the SWEET website, WP 4 (2).

Discussion

It is clear from the guidance and recommendations collated on the training of HCPs that there is no European or global consensus either on a curriculum for the training of the MDT or individual professions in paediatric diabetes. Many of the guidelines were not detailed curricula, and there was no standardisation or accreditation in the majority of countries. Moreover, most countries did not have available courses for training the MDT. There were also more accredited courses for doctors and nurses but fewer for the other professions, e.g., dietitians and psychologists. Almost unanimously, the respondents from the questionnaire believed that a standardised accredited approach for the training of the MDT and for individual professions was essential for the future. As a consequence, the SWEET Project WP 4 (2) has developed a curriculum for the training of the MDT, and this is now ready for implementation, although further discussions need to take place to get international agreement. The EU could develop international education standards to ensure that courses delivered within each country are developed to the same standard. This approach has many benefits and has the potential to improve interprofessional education at the local level and will produce a workforce that is quality assured across Europe allowing HCP movement across borders.

Comparisons between the SWEET members' current HCP training practices highlighted great diversity for a multitude of different factors. A minority of countries had a well-established, highly organised approach to accredited training for all HCPs, e.g. Germany and Sweden, whereas the current position for most of the other countries is less well defined. There were differences in the accrediting bodies, ranging from academic bodies and health systems to diabetes

Table 3. Summary of SWEET recommendations for the training of health care professionals (HCPs)

Recommendation 1

Need to develop a European agreement and consensus that accepts diabetes education as a legal right for children, young people, their families, and HCPs

Recommendation 2

Clinics should be responsible for the care of at least 150 patients

Recommendation 3

Define all members of the multidisciplinary team (MDT) and interdisciplinary team (IDT) with a clear definition of their roles and responsibilities

All MDTs and members should:

- identify a leader
- identify a coordinator
- ensure that their MDT philosophy is consistent within the team and with current national and international guidelines
- have good communication, policies and procedures
- clearly identify individual roles, responsibilities and overlap between HCPs
- have set targets
- function as a well-integrated, cohesive MDT that has the children, young people and their families at the centre of the team
- have completed training, usually to degree level, in their own specialty at the time of joining the team
- have completed a MDT Paediatric Diabetes Core Curriculum in the first year of their post
- Commit to on-going continuous professional development (CPD)

Recommendation 4

There should be structured, standardised, and accredited programmes of education (theory and practice) for the core MDT and the IDT

- There should be an agreed consensus about a defined core and full curriculum that is delivered to the MDT and contains the knowledge, skills, and competencies required by all HCPs within the team. These should be developed from these draft recommendations
- On joining the team, all members should have completed the core curriculum training as soon as possible and usually within 1 yr of appointment
- All individuals in the team should have their own training needs assessed by the team coordinator and a planned approach to their training developed. Annual reassessment should become part of the CPD process

Recommendation 5

Define the programme, the method used for delivery, quality indicators and evaluation of the course, trainers and participants

- Programmes should be based on the core curriculum developed in Recommendation 4
- All training courses should be developed with guidance from the International Diabetes Federation (IDF) International Curriculum for Diabetes Health Professional Education, 2008 and the IDF International Standards for Diabetes Education: Third edition. 2009 and national guidance
- All training courses should be accredited nationally. Consideration should be given to international accreditation
- The quality of training courses should be reassessed annually by both internal and external review

Recommendation 6

Continuous Professional Development needs to be mandatory

- National and international frameworks need to be agreed for the MDT and individual professions. These frameworks need to include timeframes, content of core CPD training, standards of methods used, processes of accreditation, acceptance of accrediting bodies and quality assurance of courses
- The content of a core CPD programme needs to be balanced to include: new technology; clinical management; behaviour change approaches; psychosocial assessment and training, and assessing education needs of the children, young people and their families
- HCPs need protected time weekly to access CPD
- A variety of methods and experiences should be used to develop CPD activity
- Funds and facilities need to be available
- MDT and the diabetes service need to be appropriately organised to allow individual and MDT learning

Recommendation 7

There should be sufficient networks across centres to facilitate sharing of good practice and audit

- Regional, National and European networks of paediatric diabetes centres should be established
- Annual meetings should occur to compare models of good practice
- All centres should contribute data in electronic format to national databases and Europe-wide data collection systems
- Regular audit should be planned and annually reported to networks
- Action should be taken in response to audit reports

Table 3. Continued

Recommendation 8
Ensure the availability of trained diabetes staff, including staff without diabetes training
- Estimate the number of children likely to develop diabetes over the next 5–10 yr
- Determine the number of centres required to care for these children
- Calculate the numbers of staff required to manage those centres
- Estimate the training needs of those staff
- Negotiate with relevant training bodies to establish accredited training courses of sufficient quantity
- Establish sufficient funding streams to ensure that the courses can be run
- Negotiate with local management the importance of establishing and retaining a stable MDT for the care of children with diabetes

Recommendation 9
Ensure care is integrated between in-patient and out-patient teams
- In-patient and out-patient teams should be integrated
- Management structures should be put in place so that the MDT is recognised as a single entity rather than the sum of its parts
- The child, young person and family should have a consistent MDT and continuity of care throughout their passage through childhood, adolescence and emerging adulthood

Recommendation 10
Establish a National Plan/Programme for paediatrics
- Each country should develop a National Plan for diabetes that specifically includes paediatrics diabetes clinical guidelines; service specifications; quality assurance;allows the development of accredited training programmes for CYP, their families & HCP, and gives guidance on CPD

associations. This diversity and lack of standardisation makes it hard to have transferable qualifications across European borders. It seems fair to say that in most countries paediatric diabetes is not recognised as a discreet part of a national diabetes plan; therefore, training programmes are not well developed. This is reflected in the fact that not all HCPs require previous experience or any accreditation in paediatric diabetes before they take up their posts. Since this project was started, the situation has changed in several countries, e.g., Hungary and the UK, where paediatric diabetes has been included as part of the National Diabetes Plan and in the UK the Department of Health has now recognised it as a specialty in its own right.

In the SWEET Project (WP 4) (2), clinic size has been identified as a factor that affects education to CYP, in order for HCPs to have the knowledge, skills, and competencies to deliver age and maturity appropriate Diabetes Self-Management Education (DSME). The SWEET Project now recommends a minimum clinic size of 150 patients. A key element of the larger clinic sizes (>400) CYP was that they were served by large numbers of qualified diabetes accredited HCPs that were specifically trained in diabetes education. Smaller clinics have fewer HCPs and less flexibility to include DSME as part of routine care. However, studies are still needed to evaluate staffing levels against optimal numbers of CYP with respect to cost/benefit and outcome measures.

Against this background of diversity and variable approaches to training, WP 4 focussed on how training could be improved. The first critical issue was clearly to define the MDT and its functions (9, 18). Evidence is presented to support MDT working and the necessity to maximise interprofessional team education working with the underlying concepts of a fully integrated cohesive team that is patient-centred care, has effective communication, and clarity of roles (37). DAWN Youth data strongly supports this holistic approach and calls for HCPs with in-depth psychosocial skills. The Hvidøre Study group also clearly highlights the need for the CYP, family, and all MDT members to have agreed targets as this united approach has shown to improve clinical outcomes (36).

It is important that HCPs continue to develop their knowledge, skills and competency to provide care, so annual individual appraisals, specifically related to paediatric diabetes care, are necessary as a key component of on-going training. Results from the questionnaire show that CPD is self-directed with no national guidance to follow changes in clinical practice. The EU needs to develop a framework to ensure that the workforce engages in CPD, following the example of some countries where it is mandatory (2). International guidelines such as the IDF International Standards for Diabetes Education (38) can be used to develop the accreditation and mandatory CPD framework. Without regular CPD it will be impossible to maintain a highly trained workforce.

The benefits of a paediatric diabetes network are numerous, and the SWEET Project and some countries have already shown the positive contribution to care by bringing together expert HCPs (39, 40). The questionnaire showed that many respondents were not part of a local, national, or international network, and it is the aim of SWEET to develop a strong professional

and clinical network. The SWEET network will have a robust data management system that will facilitate comparisons of clinical, psychosocial data, education, and diabetes outcomes so the benchmarking process can be undertaken.

The SWEET Project has also provided a forum to compare health systems and how they affect paediatric diabetes care (WP 1, 41). In many of the countries in the SWEET Project, the retention of trained HCPs was a big issue for many diverse reasons. A major issue was the lack of recognition of paediatric diabetes as a specialty, the consequences being poor investment and constant movement of staff. The IDF (38) has made recommendations to support the development of diabetes education as a specialty within each profession and that posts are only given to competent HCPs. The IDF standards support the previously described accreditation and mandatory CPD framework. Workforce planning should be undertaken by each individual country in relation to forecast numbers of CYP, number of centres required, how many HPCs of different sorts are required to staff these clinics (including drop-out rates), and funding availability. Staff incentives should be developed to foster retention. In some countries, a further issue was that the CYPs were cared for by two care teams (in-patient and out-patient). The ideal situation is that the MDT is a single entity and is consistent through the CYPs care pathway.

The SWEET Project questionnaire WP 1 (41) showed that fewer than half of the 27 EU countries have a National Diabetes Plan in place that includes paediatric diabetes. It follows that, in the absence of such a plan, there is likely to be a lack of coordination, workforce planning, accreditation of HCPs, and monitoring of training programmes and CPD, which, in itself, is likely to lead to some of the difficulties in recruiting and retaining sufficiently qualified staff to provide high-quality services.

There are limitations to the data collected in the present report as they may not be representative of all parts of the European paediatric diabetes community. Responses gained in the questionnaire and from SWEET members are likely to be from larger centres with more specialist clinics. These results may therefore reflect better practice than current overall paediatric care provision. Nevertheless, we feel that the standards recommended here reflect best practice that should be the goal of all units caring for CYP with diabetes in order to improve the quality of life and long-term outlook for those suffering from a chronic and potentially damaging condition.

Acknowledgements

We wish to thank Professor Thomas Danne for initiating and leading the SWEET Project, Dr Bärbel Aschemeier for her organisational skills and support, and the European Union Public Health Programme and SWEET corporate sponsors for financially making the project viable. We wish especially to thank the Diabetes Foundation, UK, a charity that supports diabetes research, particularly in the area of juvenile diabetes, for their continued financial support to develop the SWEET Project in the UK, and to Josie Goodsell, SWEET UK Administrator, for her expert data management. We wish to thank Dr Peter Swift and Søren E Skovlund for their contributions on behalf of the Hvidøre Study Group and the DAWN Youth Initiative. We also wish to thank NHS Diabetes in the UK for their continued support of this project. Lastly, we wish to thank all SWEET members for their contributions to WP 4.

Conflict of interest

The authors declare no conflict of interest.

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