Investigation the opportunities for physician associates working within the UK paediatric NHS workforce

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The problem

Currently there is a chronic national shortage of paediatric doctors to fill the paediatric posts available in the UK. This means, especially at middle grade level we have many rotas with gaps present. The gaps either have to be filled internally resulting in extending working hours for the doctors employed or use of external locums which means that we are exposing children to a variable workforce which also has a significant financial impact. Consequently, there is a concern around

• Safety
• Sustainability
• Finances
• Education

This weakness makes paediatric services extremely vulnerable to closure or contraction. Paediatric services are required to be delivered in all NHS hospitals and hence we need to look at alternative health care workforce models to facilitate sustainability.

Potential Solutions

Potential solutions need to include short term, medium term and long-term goals. The solutions for each of these may be different but need to be complementary. At present in the UK, we have the medical model and nursing model for staffing NHS organisations to provide outpatient and inpatient care for children. There are significant concerns around the recruitment into paediatric nursing as well which may preclude the ability to develop significant number of nurses to support current paediatric workforce needs.

The Medical Training Initiative scheme (MTI) is a flexible scheme that helps trusts to fill existing training, LAT or deanery posts where recruitment is difficult or where the posts are surplus to requirements. There has been variable success at recruitment into these posts from deprived countries for whom it is supposed to help develop and sustain a viable workforce. We need to continue to support this scheme and it may help support short term needs but will not provide a stable or sustainable workforce as the doctors have to return to their country of origin after two years.

Alongside this we have additional health care practitioners such as pharmacists, physiotherapist, dieticians and occupational therapists who support care, however their training would not currently translate into providing support for staffing inpatient areas
needed. We need to consider whether extending individual roles would be helpful to the delivery of paediatric clinical care.

Hence the need to look at an alternative workforce from a different professional group were their training is supportive of managing the clinical needs of children within NHS organisations. The physician associate role may fulfil this need.

**Physician Associates**

Physician associates are medically trained, generalist healthcare professionals, who work alongside doctors and provide medical care as an integral part of the multidisciplinary team. Physician associates are dependent practitioners working with a dedicated medical supervisor, but are able to work autonomously with appropriate support.

They have an undergraduate degree followed by completion of a two-year postgraduate qualification in advanced healthcare studies. Within the UK there are no training schemes for developing the general PA into a paediatric PA and there are concerns about how they would support our current needs, mainly centred around

- Safety
- Education
- Regulation
- Prescribing
- Roles and responsibility: can they take part in middle grade on call rotas

**Physician Associates in the UK**

What do physician associates do?

Physician associates work within a defined scope of practice and limits of competence. They:

- take medical histories from patients
- carry out physical examinations
- see patients with undifferentiated diagnoses
- see patients with long-term chronic conditions
- formulate differential diagnoses and management plans
- perform diagnostic and therapeutic procedures
- develop and deliver appropriate treatment and management plans
- request and interpret diagnostic studies
- provide health promotion and disease prevention advice for patients.

Currently, physician associates are not able to:

- prescribe
- request ionising radiation (e.g. chest x-ray or CT scan).
We have been asked by NHSE for our organisation to help remove some of the uncertainty concerning future employment of PA in our region/organisation by:

a. stating our indicative recruitment intentions for Physician Associates in 2018 and up to 2020 – taking into account anticipated attrition of recruits, workforce pressures and workforce re-design. This may be within a range for each year.

b. working closely with our local university PA programme, potentially
   a. tailoring placements to our needs,
   b. providing student sponsorship to 2018 starters
   c. providing a job guarantee for a specified number of graduates
   d. developing local initiatives to attract, recruit and retain PAs
   e. committing to working with HEE on the development of a post qualification education offer such as foundation style programme or rotation to encourage newly qualified Physician Associates to remain in Yorkshire & Humber.

**Why explore the US physician assistant model?**

The USA have employed PA for over fifty years and their expansion into paediatrics has been significant. They work in

- General paediatrics
- Specialist paediatrics
  - PICU
  - NICU
  - Paediatric A&E
  - Organ based specialities
- Paediatric surgery
- Community Paediatrics

They have been found to be

- A safe workforce
- An economically viable part of the workforce
- A stable workforce with ability to provide continuity, education and support of teams

Hence this proposed trip is to allow us to understand if the current mature and proven use of PA the USA can be translated into the UK paediatric workforce. Our main aims are to ensure

1. Safety and quality of the model
2. Translation of the model
3. Sustainability and stability of the model
4. Economic viability of the model
5. Education

In order to meet these aims
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| Safety and quality of the model          | 1. Review safety profile for paediatric PA within clinical working in US organisations  
                                         |   a. Number of critical incidents  
                                         |   b. Number of root cause analysis  
                                         |   c. Number of complaints  
                                         | Related to PA and is there and excess compared with physicians  
                                         | 2. Drug errors in prescribing PA: is there any data to suggest there are more  
                                         | 3. To explore the effect of the PA model on the quality of the services using outcome measures where possible.  
                                         | 4. Patient satisfaction compared with other models of care delivery  
                                         | 5. Review literature on safety of model within US                                                                                       |
| Translation of the model                | 1. Discuss roles and responsibilities with PA and align with UK working  
                                         | 2. During a working shift within a US hospital, document jobs done and align with U workforce- who currently does them  
                                         | 3. To understand how PAs work as part of a team                                                                                         |
| Sustainability and stability of the model| 1. Review literature re expansion, reduction of PA roles in paediatrics  
                                         | 2. How many PA stay in their current paediatric role and why- discussion with PA hospital and conference  
                                         | 3. Opportunities for career change within paediatrics, discussion at conference  
                                         | 4. Opportunities for career progression and evidence of equality in progression  
                                         | 5. To understand the highest competency level that is possible with the PA model, appreciating that we are seeking to fill a service need at middle grade level  
                                         | 6. To get a rounded perspective of the PA role, including the medical and nursing perspectives of the working PA model  
                                         | 7. To understand the complexity of systems and cultures that will challenge the introduction of the PA model into the NHS system and culture |
| Economic viability of the model          | 1. Pay structure of PA and how they relate to physicians, nurse practitioners  
                                         | 2. ROI  
                                         | a. discussion re productivity of PA within organisation in terms of number patient seen OPD/supervision needed |
We would hope to evaluate the opportunities within

- General Paediatrics
- PICU
- Paediatric A&E
- Paediatric surgery
- NICU (if possible)

However, this will rely on having an expanded team with representation from RCPCH, nursing representation, paediatric surgery or PICU.

**Itinerary**

1. Thurs 13th Sep fly to San Diego
2. Fri 14 San Diego Children’s Hospital
3. Sat 15th conference
4. Sun 16th September fly to Denver
5. Mon 17th, Tues 18th, Wed 19th am at the Children Hospital in Denver
6. Wed 19th evening fly to UK
Staff Definition USA
Attending physician (AP)
Advanced nurse practitioner (ANP)
Advanced neonatal nurse practitioner (ANNP)
Physician Associate (PA)
Advanced Practice Provider APP (which can be either PA or ANP)
Resident (R)
Clinical Fellow (CF)
Intern (I)
Medical Student (MS)

Specific questions identified by paediatricians to be answered pre-visit
- How much supervision do you need and is it protected
- Training programs in subspecialties - is it make it up or do they exist
- Involvement in research
  - Giving new drugs
  - Running studies
- Career progression for PA - do they have a tie in to roles
  - What happens
  - Where do you go
    - Continue same speciality
    - Move to different speciality or sub speciality
  - How long do you stay?
  - Leadership
  - Management
  - Teaching/Education
  - Research
- How do organisations ensure they retain PA?
  - Short term post training
  - Long term
- Expectation training/CPD
  - For gaining a new role
  - When static in role
  - Is it protected teaching and supervision
- Role in safeguarding
  - Specific roles/experience e.g. CSA/forensics
  - For each job in paediatrics is there child protection training
- PA within the neurology and neuromuscular team
General Findings

The PA role was developed after the return of medical (non doctor) veterans from Vietnam when you had well trained health care professionals without a defined role in peacetime. They were initially employed in acute care settings such as emergency and surgery were their skills were optimised. This became a more general role with the development of PA programs which initially recruited mature professionals with some experience in health care. As the role has progressed there are an increasing number of PA program which admit students after undergraduate degrees with little ‘work’ experience. They are also increasingly likely to specialise and work in hospitals rather than primary care. This move has been predominantly led by the reduction in doctors’ hours in the US and a need to find an alternative professional group to see patients. The PA development has run parallel to ANP development, with the latter being more successful in some states due to state legislation.

Supervision

In the US, all physician associates complete an undergraduate degree followed by a postgraduate degree in physician associate studies. The length of the post graduate component is longer in the US with approx. 30 months training compared with two years in the UK.

After graduation, the PA are generalists and apply for posts either in primary care or hospital care. For hospital posts, due to their specialist nature, fellowships are being developed that provide a more supervised introduction to an individual speciality. In most cases these programmes are 12 months long and we have specific examples for general paediatrics (internal medicine), paediatric intensive care (PICU), neonatal intensive care (NICU) and different surgical specialities with others available if needed. Fellowship programmes tend to be developed by providers of advanced practice in conjunction with the medical teams an example being the internal paediatric PA fellowship at Denver Children’s Hospital which has been developed by the PA who runs the postgraduate PA program there.

Prior to fellowships and in those specialities that don’t currently offer them there is a preceptorship program which encourages self-learning alongside supervision to develop specific competencies before a PA can start to work within a department. Evidence based practice and competency based assessments are used as opposed to time based learning. It is the AP who supervise the PA in the clinical area with review of patients and case notes however it is the APP team who help develop competencies and provide teaching with support when needed from the residents.

If a PA fails to develop competencies then they are actively supported to consider a different role with their contract not being renewed.

Once a PA has developed the specific competencies required for that role they are allowed to work within a specified remit that is documented i.e. what care they are allowed to provide and this may include an on-call component. Every year each PA has a review with their employing team with responsibility for PA’s no longer being associated with a specific AP but with a group who all have accountability. Each AP has
to sign a document to signify their commitment and involvement and the annual review of the APP with the AP involves a discussion, review of efficiency and effectiveness as well as the value they offer to the team, clinical governance such as review of representative cases seen. They may be offered a pay increment depending upon their review but it must be noted that PA contribute to the ability of an AP and hence an organisation to ‘bill’ for services delivered and hence this is different to the UK.

If a PA wishes to change specialities then depending upon how different it is form what they have previously experienced they may need to apply for a further fellowship. However, this will mean they enter another period of being supernumerary which the organisations are trying to discourage unless it is to develop enhanced skills to support a middle grade rota such as PICU.

In terms of protected teaching there are different arrangements in different specialities with opportunities being team specific even for the preceptorships. The fellowships are more structured with defined educational components.

**Career development and continuity**

Most PA we spoke to were content with their role and responsibilities within their first 15 years after qualifying. However there appeared to be less satisfaction with focusing on purely clinical roles once they were more advanced in their roles which is not dissimilar to other areas of clinical practice such as medicine and nursing.

In their junior career, they moved large geographical distances for development opportunities such as fellowship programmes and retention within those roles after qualifying depended upon

- Organisation
- Team structure and relationships
- Empowerment and facilitating independent practice
- Feeling valued
- Work life balance

We spoke to many APP who had stayed with the same team for 7-10 years if not longer. In the past the PA have been able to dictate terms and conditions such as hours worked, however with the significant increase in number of PA trained and available they are having to work extended hours especially antisocial shifts to cover residents’ hours. This has needed a frame shift in thoughts and behaviour with some rebellion however with strong leadership from within the APP programs this has been successfully implemented in many specialities. The leadership has primarily focused on the attention to having delivered training in clear core competencies to the PA which is needed for delivering direct clinical care and if they wish to be taken seriously as profession then those skills need to be available 24 hours per day and not just within the normal working week. The junior APP do have the opportunity to participate in audit, research and teaching, however most of this is within their own time.

As they are stable members of each team, the PA contribute to training and educating of the interns and residents. As they become more experienced the PA are developing
enhanced roles either in PA education, advanced life support, leadership or research. At present there are not enough opportunities for this development and thought needs to be given as to how to sustain PA in the second half of their career. Most PA are happy not to practice independently however this is at odds to ANP who are able to develop their own private practice. There is an increasing voice from within the PA profession in an attempt to understand why they are treated differently form ANP with regard to this.

**Incentives**

We saw a significant number of incentives used to facilitate working within organisations, across organisations within a system and also to ensure retention of staff. The groups where we saw this happen were mainly for nursing staff and APP. Examples are

1. **Flexible staffing model:**
   a. The rates of sickness increase almost exponentially from doctors to APP and to nursing staff with the needs for locums to cover APP shifts. Hence they have APP on call for each shift. The on-call person receives a small monetary amount to remain sober and within a specified distance of the hospital. If called in then they receive the shift amount. In PICU at Denver children’s hospital there were 20 PA sick calls in one year
   b. Only a specific number of APP are needed to cover the daytime duties, however more are needed for out of hours care and these are employed on a flexible care model
   c. Annualised hours contracts mean that staff can have a significant amount of time off in the summer but work fulltime in the winter when they need to staff up to cover the increase in work load

2. **Incentives working in different environments**
   a. There are more unpopular hospitals due to distance from base and for those there is an incentive of extra hours used when you perform a shift there i.e. 1.5 equivalent/shift as opposed to it counting as 1 shift
   b. Accommodation provided for 48-hour shift
   c. Extras such as lift passes in ski resorts

**Safeguarding**

We saw a mixed approach to safeguarding and child protection training for APP. In some the APP took it upon themselves to ensure they has the appropriate training through CPD as they saw it as a requirement of the job. The PA in Rady children’s hospital felt that they had greater skills in this area than the doctors and they ensured credentialing in this area. At Colorado children’s hospital, this is something that was felt could be improved upon within the surgical specialities with a more directed program needed. However, in discussion they were all very much aware of the need to consider protecting the child in specific clinical presentations.

At Colorado Children’s hospital they employed one ANP within the child protection team however there was no reason that they couldn’t train PA within their service
Specialist paediatric services
There was a total of 456 APP employed within Colorado Children’s Hospital, some in all specialties, being either ANP, PA or a mix of both. An example being neurology were there were 3 PA and more within the neuromuscular and rehabilitation service. Training was not felt to be a barrier to training or employment in any clinical area as long as the AP were committed to promoting their positions and developing the roles.

Rady Children Hospital (San Diego)

Rady Children’s Hospital (RCH) in San Diego is a not for profit organisation with no shareholders and hence efficiency savings are used by the health care teams to improve care but also to respond to insurance companies’ reduction in payments. Its organisation structure is not related to insurance firms unlike other providers such as Kaiser Permanente where it is thought quality may be reduced in an aim to treat everyone the same. The health care professionals who worked at RCH felt this enabled them to dictate their own destiny in terms of what they could provide. The mantra was around ‘who needs to and can do this’ and not about pre-defined historical roles. Consequently, the number of roles within team structure was increased such as within the orthopaedic teams they have

1. Orthopaedic technicians who do the plaster casts and other allied techniques
2. APP who see acute patients in ED (first on call), write orders and review in clinic. They liaise with local hospitals to transfer children and ensure they are seen by most appropriate attending. They have their own clinic list for various aspect of orthopaedics such as club foot clinic and fracture clinic but still have to have a number of charts reviewed by their attending each year and signed off. They see themselves as gatekeepers of who makes it through to the surgeons and very few spend time in the operating room which is supported more by the fellows and residents to develop their surgical skills. There is a list of approved procedures that they are allowed to do such as order ionising radiation, insert cannula, prescribe and the types of patient they can see. Each year they have an appraisal with their attending physician and will receive a payment uplift depending upon the quantity and quality of work. This is an incentive that is determined by the orthopaedic group and is dependent upon the income they bring in to the team by billing. The APP have allowed more patients to be seen with the same quality delivered and hence more income obtained.
3. Fellows & residents: who mainly concentrate on their training and learning surgical skills as well as taking part in the overnight on call rota
4. Attending Surgeons (AS): who are strong team leaders with overall responsibility for their team members and patients. There was a strong sense of co-operation amongst all the AS who appear to work together in a co-operative fashion with a commitment to the junior team members and reliance on the APP.

What do they enjoy about being a PA?
• Being part of a team and knowing who they are responsible for and to
• They are allowed to practice semi independently within their competence levels and enjoy a close working relationship with attending physician i.e. they know where they belong
• They currently work long shifts 07:00 until midnight and weekends but not overnight, however this may change
• They are treated the same as ANP and enjoy a close working relationship
• The financial remuneration is excellent

What concerns them?
• Working overnight i.e. work-life balance but this is not a game changer as the rest of their role makes all the difference
• Career progression

Colorado Children’s Hospital, Denver

An APP can be either a physician associate (PA) or and advanced nurse practitioner (ANP) and although they have separate postgraduate training programmes, once qualified they receive the same induction/preceptorship programmes within a role and function similarly on the job (in most teams).

In the US APP are employed on university contracts which places them in the ‘medical’ group with doctors and separating them from the nursing staff who are employed by hospitals. This allowed the APP to bill for direct clinical care but more critically it has allowed them to develop along the lines of the medical model that has facilitated integration into the ‘medical’ workforce. This separation has been crucial for empowering APP to think differently about their role and how their training supports them in expanded roles. At Colorado Children’s Hospital, there are approximately 460 APP employed which provide 35% of the medical staff and they work within almost every team in the organisation. Initially some doctors were reluctant to engage with programs due to concerns over doctor training and how effective PA would be. However, necessity and pragmatism has meant engagement with PA development and subsequent refection demonstrating successful integration into teams with PA becoming indispensable.

In terms of ability to progress within a role, this is defined by competency based assessment and it is not related to time in a role. The success of the integration into teams has relied on having a dedicated APP champion within the organisation and the enthusiasm and commitment from attending physicians. The overwhelming feeling found during the visit was of health care professionals working in teams with the attending having overall responsibility for the patient and the rest of the team ensuring that ‘orders’ (any test, result, plan) are followed. Thus ensuring a quality service is delivered and a positive outcome for the child being cared for.

Conflict has arisen in terms of
• Nomenclature- some would like the term physician extender to be used (PE) rather than PA, AP or APP, as they see their role as extending the ability of the doctor to see more patients effectively and efficiently.

• Role description- in California then APP fall into the category of ‘midlevel’ medics however this term is not thought to be representative in Colorado. This is due to most APP we met having been in role for 5-10 years (up to twenty) and hence have a greater experience than residents coming into post that may only stay for a year

• Career progression- there is a need to understand how to ensure APP remain effective

**Hospitalist (Internal paediatric medicine)**

Team structure
12 APP support 3 teams all year with additional team in the winter (Nov-March) on main site
Main campus and 4 outlying care sites

Red: Attending, senior resident, 2nd year resident, APP and an intern
Blue: as above
Green: focus on children with neurological conditions
Yellow: winter only attending, 2 APP, one swing shift APP (3pm-midnight)
Each team covers up to 16 children

APP work 9-13 hour shifts until midnight and weekends and at outlying sites may cover overnight. There is a move to have the APP on the on-call rota overnight which is welcomed by some but not all due to concerns over work-life balance. The incentive to work in the yellow team is to have all the summer off and then work full time in the winter and is effected by annualised hours contract. There are also incentives to working in some outlying sites which may not be as attractive i.e. 1.5 shift equivalent.

There is a team approach to initial assessment of children, depends upon the acuity and co-morbidities present but PA are able to see all conditions. The extra team in the winter provides cover for the seasonal illness such as influenza and bronchiolitis and is staffed just by APP and an attending. There are some conditions that are looked after by specialist team such as DKA would go directly to the diabetes team and if a child already has a specialist attending they may go directly to teams such as respiratory, gastroenterology or haematology/oncology. The average length of stay of children admitted under the yellow team is shorter than the resident teams which may reflect acuity or be condition specific.

The utilisation of APP has grown exponentially since the reduction in resident’s hours. The hospital has developed a PA preceptorship program which will begin October 2018 that comprises of 3 months PICU, 3 months acute, I month each haematology/oncology, pulmonology, cardiology and then a 3-month elective. The incentive is to ‘grow’ their own paediatric PA.
Medical Subspecialties

APP work in nearly every department within Colorado Children’s Hospital. Examples being

- Endocrinology: a predominantly outpatient based speciality with two PA who see exactly the same patients as attending after a period of training. There is a steep learning curve each time a new speciality is entered with a significant amount of responsibility on the PA to upskill as well as commitment from the attending to train. Evaluations throughout the year are mandated by state law and supervision is on going though less frequent as experience is gained. Weekend clinics are part of the job plan with normal hours including clinics and day care procedures. There is a commitment to teaching new interns, fellows and residents and the PA contribute significantly to education programmes

- Oncology: APP have worked within the team for a number of years, initially during normal working hours, having now moved onto a 24-hour shift pattern. Initially there was resistance from the PA about this so the department took the view that no PA were indispensable and if necessary they would re-recruit to facilitate the care that children needed. This approach has been successful.

Paediatric Critical Care

Team Structure
Red: Attending, critical care fellow and resident
Blue: Attending, critical care fellow and APP
White: Attending and APP (in the winter only)

32 beds all year but can up staff to 42 in the winter

They work on a rota system 24/7 for seven days each week 06:30- 18:00 or 17:30-07:00. This was the expectation from the start even though they initially didn’t have enough staff.

Workforce modelling, they need 24 APP to staff PICU with 2 each night but only have enough work in the day for 18 APP. Hence extra providers flexible.

They have a system of one APP on call which means they have to stay sober and nearby. For this there is a nominal ‘on call’ payment and if they are called in they are paid for a shift. Similarly, with the nurses, if the PICU is quiet, they will be called and asked if they want to have an annual leave day which means they stay at home and don’t receive payment

There is an orientation program which can be viewed Appendix......There is a positive approach to recruitment with PICU offering 4 PA students extra training in intensive care medicine
Duties

- APP are the primary contact for nurses (very good relationship)
- Work at middle grade level and as such see critically unwell patients, admit, plan and implement. They can be autonomous depending upon competencies
- There are respiratory therapists who manage ventilator settings
- See all patients and expect to be involved in long term decision making for chronic patients i.e. long-term ventilation
- Provide consistency and have decreased length of stay
- APP more likely to follow guidelines
- They support patient flow and there is always one APP available to assess children and admit children so that rounds are not disturbed i.e. more patients now admitted between 06-08 and are not waiting for assessment.
- No difference in safety i.e. no more critical incidents or root cause analysis if teams have APP in them on PICU

Tensions

- Ownership of patients, when the APP have been around a long time and then residents come for training there can be hierarchical problems
- Access to procedures- they have learnt to share
- Career progression: there needs to be a better plan, at the moment most become instructors or go into leadership positions

The majority of PICU in the US are moving to a similar model for care delivery, primarily due to reduction in resident’s hours but also due to the positive contribution APP make with consistent care deliver and better quality for children

Paediatric Emergency Department

Team Components
Team 1: Emergency Attending, 2x Medical trainees A&E, 1APP (09:00- 01:00)
Team 2: Emergency Attending, Paediatrician, 2x APP and medical trainees
Team 3: in the winter: Paediatrician and APP

They have an orientation program where they develop competencies by seeing approx. 25 cases of each common condition at each acuity level before being allowed to progress from level 4 to 3 to level 2 conditions. APP are not allowed to see level 1 conditions alone. They use the Emergency Severity Index triage tool.

At the moment APP do not work nights, however the intention is that this will happen over the next couple of years.

They have a different model of care in the ED from the UK with an attending physician triaging in the waiting area and being able to treat and prescribe for patients. Hence the volume of patients taken through to the consulting rooms is less with higher acuity or
more complex social situations. There is a separate secure area for young people with mental health problems to ensure safety and appropriate management. Of interest the waiting area is bare in terms of facilities and toys for children. This is for infection control but also doesn’t encourage visitors.

**Why do APP want to work in ED?**

- Well supported
- Feel part of a team
- Encouraged to see patients independently and hence feel they are contributing in a positive way to workload management
- PA who work there have stayed for many years and they are encouraged to educate and teach the more junior staff and hence have an extended role

Example of preceptorship programme available

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**Paediatric General Surgery Team Structure**

Team components
11 paediatric surgeons
2 colorectal surgeons
5 outpatient APP (All NP: colorectal, general surgery, vascular malformations, bariatric and burns)
9 inpatient APP (2NP & 7 PA: 2 NICU, 6 Trauma and acute care provider (TACS), 1 colorectal)
5 paediatric surgery fellows (2 ACGME, 1 critical care, 1 colorectal, 1 MIS/Bariatric)
3 residents (1st, 2nd and 3rd year)

Inpatient team breakdown: 40-70 patients/day

- TACS: One ‘surgeon of the week’ 2-3 APP each day

- Paediatric surgery subspecialty (PSS): One ‘surgeon of the week”, 1-2 fellows, 3rd year resident & interns. One NICU APP

Night coverage: One surgeon, one resident/fellow, one intern

TACS: the generally acutely unwell child admitted through ED. Common diagnosis include, appendicitis, bowel obstruction, intussusception, pyloric stenosis, hernia and multisystem traumas.

The APP are the first to see the child in ED, assess, manage, admit, book for surgery etc.

They can be first assist in theatre but are never in charge of operating. Residents spend their time in OR

They all have ATLS, PALS, BLS but no formal child protection training which they would like
PSS: is generally the planned surgeries and inpatients consults. This includes pectus, tumour removals/mass excision, port insertions/removals, anorectal malformations etc.

The role of APP has changed significantly, initially daytime hours only with 4x 10 hour shifts and no weekends. They now work 3x 13 hours shifts seven days a week and there is a proposal for them to start working nights as well

What the APP like about surgery

- Working as a team and being valued
- They have been trained well
- Know who they are responsible for and responsible to
- There is consistency in what they do
- They are allowed to ‘get on with it’ but always have support

What they are concerned about

- They are not keen on working nights due to work/life balance, however the need to work more antisocial hours will not make them change jobs
- Career progression and time to become involved in other opportunities as most of their time is clinically based
OR PROCEDURES TO SCRUB:
- Pyloromyotomy
  Date:____________________
- Appendectomy
  Date:____________________
- Gastrostomy tube placement (x3)
  Date:____________________
  Date:____________________
  Date:____________________
- Bowel resection/ostomy creation
  Date:____________________
- Pectus repair
  Date:____________________
- Inguinal hernia repair
  Date:____________________
- Umbilical hernia repair
  Date:____________________
- Cholecystectomy
  Date:____________________
- Broviac line placement
  Date:____________________
- Broviac line removal
  Date:____________________
- Mediport placement
  Date:____________________
- Mediport removal
  Date:____________________

CLINICS TO ATTEND:
- General Surgery Clinic (2 days)
  - Dr. Karrer
  - Dr. Bruny
- Burn Clinic with Angela (2 days)
- Attend Burn Rounds to meet the multidisc team (Tuesday mornings)
- Colorectal Clinic with Julie —
- G-tube clinic with Becky J —
- Vascular Malformation clinic with Becky —
- Bariatric Clinic with Rachel —
- Wound care nurse/clinic —

DIAGNOSES TO MANAGE:
- Non-perforated appendicitis
  - ED consult/H&P
  Date:____________________
  - Post-operative management
  Date:____________________
  - Discharge
  Date:____________________
Perforated appendicitis
  o ED consult/H&P
  o Post-operative management
  o Discharge

Medical management of appendicitis
  o ED consult/H&P
  o Hospital management
  o Discharge

Pyloric stenosis
  o ED consult/H&P
  o Post-operative management
  o Discharge

Cholecystectomy
  o Post-operative management
  o Discharge

s/p G-tube placement
  o Post-operative management
  o Discharge

Bowel obstruction
  o Operative management
    □ ED consult/H&P
    □ Post-operative management
    □ Discharge
  o Non-operative management
    □ ED consult/H&P
    □ Hospital management
    □ Discharge

Multi-system trauma
  o ED consult/H&P
  o Hospital management
  o Discharge

Non-accidental trauma
  o ED consult/H&P
  o Hospital management/workup
  o Discharge

Pectus
  o Post-operative management
  o Discharge

Liver injury
  o ED consult/H&P
  o Hospital management
  o Discharge & teaching

Spleen injury
  o ED consult/H&P
  o Hospital management
  o Discharge & teaching

Kidney injury
  o ED consult/H&P
PROCEDURES:

- Chest tube removal (x5)
  - Date: ____________   Supervised by: ________________
  - Date: ____________   Supervised by: ________________
  - Date: ____________   Supervised by: ________________
  - Date: ____________   Supervised by: ________________
  - Date: ____________   Supervised by: ________________

- G-tube change (x5)
  - Date: ____________   Supervised by: ________________
  - Date: ____________   Supervised by: ________________
  - Date: ____________   Supervised by: ________________
  - Date: ____________   Supervised by: ________________
  - Date: ____________   Supervised by: ________________

- Broviac repair (x5)
  - Date: ____________   Supervised by: ________________
  - Date: ____________   Supervised by: ________________
  - Date: ____________   Supervised by: ________________
  - Date: ____________   Supervised by: ________________
  - Date: ____________   Supervised by: ________________

- Drain removal (3 each)
  - JP Date: ____________ Supervised by: ________________
  - JP Date: ____________ Supervised by: ________________
  - JP Date: ____________ Supervised by: ________________
  - IR Date: ____________ Supervised by: ________________
  - IR Date: ____________ Supervised by: ________________

- Application of silver nitrate
  - Date: ____________ Supervised by: ________________

- T-fastener removal
  - Date: ____________ Supervised by: ________________

- Burn dressing change on floor (x3)
  - Date: ____________ Supervised by: ________________
  - Date: ____________ Supervised by: ________________
  - Date: ____________ Supervised by: ________________

- Burn dressing change in ED
  - Date: ____________ Supervised by: ________________

OTHER:

- Meet with Heather, PICU dietician
- Write/modify TPN
- Initiation of tube feeds
- Set up home care
  - G-tubes
  - Oxygen
  - PICC
☐ Ostomy
☐ Wound vac
☐ Independently see/staff ED consults
☐ Attend trauma/scribe
  ☐ Trauma Red
  ☐ Level 1
  ☐ Trauma Consult
☐ Meet with John Ricciar for general trauma orientation
☐ Attend Dr. Moulton's resident trauma lecture
  Date:
☐ Attend burn lecture given by Burn RN
  Date:

CONFERENCES TO ATTEND WITHIN FIRST YEAR OF HIRE:
☐ Partners in Pediatrics –
☐ Colorado Pediatric Trauma Conference –

CERTIFICATIONS TO OBTAIN:
☐ BLS
☐ PALS (within 6 months of hire)
☐ ATLS (within 12 months of hire)
Paediatric Orthopaedics

APP within the team
Twenty in total (7 don’t go to the OR and are called clinical APP), working within

- Spinal surgery (2)
- Trauma (1)
- Sports medicine (2)
- Hand and upper limb (2)
- Cerebral palsy (3)
- General orthopaedic (2)
- Hip (2)
- Tumour (1)

Orthopaedic activity growing due to growth in local population
Most of the patients are assessed by an APP before seeing a doctor

- Independent clinics
- Inpatient consultations and daily rounds
- First on call ER and procedures
- Place admission orders with co-signing by attending (needs to be discussed with)
- Support surgical productivity
- Program development
- Community outreach and education

On occasion an NP may be allowed to sign off independently from clinic (depends upon state and this is different in California where a PA can also see patient independently in clinic)
The clinical APP see more patients as they are not in the OR i.e. more cost effective.

New APP train for 6 months with direct supervision and have to complete an orientation program including seeing certain conditions and doing procedures.

Peer evaluation process every year being compared against

- Peers
- State or national benchmark
- Other established performance goals

For every new post, there are approximately 100 applicants and what they look for

- Personality fits
- Get along with surgeons
- They can be taught everything but can’t teach hard work and personality so these most important

Hours of work

- Most are full time
- Work 13 hour shifts, mainly Mon-Fri but some weekends due to reduction in resident
APP Utilization in Orthopedics
Children’s Hospital Colorado

− Chelsea Soucie, CPNP, MS
− Orthopedic Trauma Program
− Chelsea.Soucie@childrenscolorado.org

Ortho Subspecialties
- Spine
- Trauma
- Sports
- Hand and Upper Extremity
- CP
- General orthopedics
- Hip
- Tumor

Roles of the APP
- Independent clinics
- First Assist in the OR
- Support Orthopedic Surgeon Production
- Program Development
- University of Colorado Education
- Faculty for University of Colorado
- Inpatient consults
- Daily rounding
- Managing patient consults and procedures
- Place admission orders with co-sign from attending

Weekly Schedule Examples

Surgical APP
- Monday: OR with Surgeon and rounding
- Tuesday: Tandem Clinic with Surgeon
- Wednesday: OR with surgeon and rounding
- Thursday: Independent Clinic
- Friday: Admin

Clinical Ortho APP
- Monday: On call (shight/shadow)
- Tuesday: Clinic
- Wednesday: Admin
- Thursday: Clinic
- Friday: Clinic

APPs have a day of admin time built into their schedule
Billing
• APPs can first assist in the teaching hospital operating room and bill if
  – No qualified resident available: this can be because they are in required training sessions (Grand Rounds) or off-duty for sleep or required to be in clinic
• Can bill for patient appointments
  – NPs do not need visit cosign with supervising physician

Training and Orientation
• General hospital and University of Colorado orientation
• Work directly with surgeon/supervising physician and define role as created by the physician
• Assign an APP mentor within the group
• New APPs train 6 months direct supervision
  – Clinic visits reviewed and cosigned by supervising attending
  – Proctored procedures and training for 6 months for new graduates and 3 months for providers with ortho experience
• 5 procedures to gain privileges and submit log every 2 years
• Department competencies list

Are APPs valuable in ortho
• APPs receive monthly P&L statements to monitor individual progress
• We receive billing activity reports to show growth from previous years
• Expected to make our own salary
• Most APPs are able to support themselves in orthopedics

Pay Structure

Are we good at what we do?
• Department monitors patient satisfaction of individual providers
• Any issues of concerns from patients and families are addressed through our patient relations department
• If provider has low performance, department chair reviews and determines steps to address the issue
  – Provider feedback and suggestions for improvement
  – If needed: focused practice evaluation
• Skills competencies and re-credentialing reviewed by medical staff office
**Neonatology**

We visited Denver Health a critical access hospital who take care of all, regardless of ability to pay. They have to be effective and efficient and hence have made a significant number of changes over the years to be able to treat people. An example being when the insurance companies reduced the cost of long line insertion from $800 to $80 it was no longer cost effective for doctors to insert them and became a nurse job instead. This has been shown to be a positive move due to the consistency of nursing staff and a corresponding low line infection rate. It was apparent from all the departments we visited the ethos was around, who has the ability to do this, rather than it being defined as needing a doctor.

In 2014/15 due to a reduction in residents, APP were trained to attend all deliveries, including those high risk. It was found by having consistent staffing (as well as delivery room intubation and more education) 5 minute Apgar scores improved, with only 2.9% having low scores (< 5) compared with 7.1% previously.

Now as a level 3 unit the staffing/shift includes 1x intern (ST1-3), 1 x APP and an attending consultant. For some shifts a resident may replace the APP. We met a previous UK neonatal GRID trainee now training in the US whose opinion is

- Safer in the US with APP attending all deliveries
- The doctors do less routine tasks
- The doctors spend more time with residents and hence learn more and also are able to attend teaching programmes as APP cover clinical areas better
Use of Physician Assistants in the NICU at Denver Health

-Originally, physician assistants from the newborn nursery were trained to cover at night when the resident schedule did not have a resident physician working. These were PA’s comfortable with newborn assessment and newborn delivery attendance and resuscitation. At the time, the NICU transferred out the smallest and sickest babies and changes in the NICU patients were communicated with the neonatologists.

-Over time, the work force was supplemented by NNP’s who were also brought in to cover at night and on weekends when there was insufficient coverage. The NNP’s and PA’s covered the NICU as an APP group. In 2014 there was a push to cover the unit and more specifically the delivery room around the clock. This was done in conjunction with better delivery room training to improve the transition of infants following delivery. (See attached)

-To make sure the PA’s background was equivalent to the NNP’s hired for the APP group, the PA’s participated in an in depth didactic series on neonatal physiology and management. All of the APP’s participated in rounds, helped teach the interns, were able to cover a patient load and were able to address clinical changes in the NICU patients as a result of their education and experience in the NICU.

-Recent PA’s added to the group have completed a PA residency after their general PA education. (See attached) https://www.chop.edu/pages/neonatal-physician-assistant-residency-program

-Currently, the PA’s work either 12 or 24 hour shifts. Their day in brief:
  - Receive report from the outgoing APP
  - Pre-round on assigned patients (0-10 depending on if intern is absent)
  - Assist interns with their patients
  - Attend high risk deliveries with/without house staff
  - Attend rounds
  - Update sign out report/problem list for assigned patients
  - Assist with all new admits: PE, H&P, orders
  - Assist with discharges
  - Participate with ongoing professional activities (protocol updates, VON data, etc.)
  - Provide ongoing education to the residents
  - Give report to oncoming APP

-All clinicians in neonatology have ongoing practice requirements for continuing medical education, quality metrics and professional development. (see attached)

-The PA’s are part of the medical staff and come up for reappointment like the physicians.
Neonatal Physician Assistant Residency Program

About the residency program

The Neonatal Physician Assistant Residency Program at Children’s Hospital of Philadelphia is a 12-month intensive program designed for physician assistants (PAs) seeking to subspecialize in neonatology.

The program provides PAs with the skills needed to prepare them to become competent front-line neonatal clinicians. The program includes:

- Mentoring
- Didactic teaching
- Simulations
- Skills training
- Clinical experiences

Physician assistant residents will rotate through three sites:

- **CHOP’s Newborn/Infant Intensive Care Unit (N/IICU)**, a level IV unit that provides the highest level of care for the most complex and critically ill newborns who need access to 24/7 medical and surgical specialty consults
- **Pennsylvania Hospital’s Neonatal Intensive Care Unit (NICU)**, a level III unit that cares for babies with serious medical or surgical conditions
- **Virtua Voorhees Medical Center’s NICU**, a level III unit that cares for babies with serious medical or surgical conditions

https://www.chop.edu/pages/neonatal-physician-assistant-residency-program 9/17/2018
The program accepts two PAs per year as salaried residents for the program that runs from the end of October to October of the following year. At the conclusion of the program, residents will receive a certificate of completion.

CHOP’s Neonatal PA Residency Program is in the three-year process to earn final accreditation from the Accreditation Review Commission on education for the Physician Assistant.

**Program objectives**

At the completion of the Neonatal PA Residency Program, physician assistant residents will be able to:

- Provide complete care to neonates up to 6 months of age
- Provide high-quality front-line care for infants in the delivery room, well-baby nursery and neonatal intensive care unit
- Provide thorough follow-up care to newborns and infants

**Curriculum**

**Classroom education**

The Neonatal PA Residency Program begins with two weeks of classroom didactics, simulation training and observation. This “boot camp” serves as an orientation to the field of neonatology.

Following the two-week orientation, residents will attend weekly learning sessions that will include lectures, simulations and skills training.

Teaching will be provided by an extensive faculty including:

- Neonatologists and subspecialists
- Physician assistants
- Neonatal nurse practitioners
- Neonatal physician fellows
- Nutritionists

https://www.chop.edu/pages/neonatal-physician-assistant-residency-program  9/17/2018
Nurses and lactation specialists
Therapists from speech, occupational, physical and recreational therapy
Psychologists

Educational topics will begin with fetal development and extend through birth and the first six months of life, including developmental follow-up. The curriculum is extensive and will cover numerous topics that affect the newborn.

Didactics will include an extensive review of disease processes that affect all organ systems with treatment and management.

In addition, PA residents will be invited to attend conferences at all training sites, and physiology didactics lectures given to neonatology physician fellows.

Clinical training

PA residents are assigned a preceptor at each of the three clinical sites, and provided with an outline of educational goals and skills to be mastered on each rotation.

The first six months of clinical training will occur at Pennsylvania Hospital and Virtua Voorhees (both level III NICUs). There, PA residents will care for patients in a variety of clinical settings, including:

Delivery rooms
Well-baby nurseries
Neonatal intensive care units
Neonatal follow-up
Medical and surgical teams

As the resident becomes more proficient and progresses in training, the resident will care for his or her own patient load, which will increase in complexity and numbers.

Following the initial six months of training in the residency program, PAs will move on to train at CHOP's Level IV N/IICU to complete the year. The PA resident

https://www.chop.edu/pages/neonatal-physician-assistant-residency-program 9/17/2018
will begin rotations on nights and weekends with their preceptor. For the final three months of the program, the PA will function independently as a full member of the CHOP neonatology team.

Two weeks of elective time is also included in the program. Residents can choose to focus on any specialty during this elective time, as long as the times and locations are available.

**How to apply**

Applications for the residency program must be completed online between March 1 and March 31, 2018.

For application details, go to CHOP's Careers page and search by requisition number 16222.

**Tobacco-free hiring policy**

To help preserve and improve the health of its patients, their families and its employees, The Children’s Hospital of Philadelphia implemented a tobacco-free hiring policy. This policy applies to all candidates for employment (other than those with regularly scheduled hours in New Jersey) for all positions, including those covered by the Collective Bargaining Agreement.

Job applicants who apply after July 1, 2014 will be expected to sign an attestation stating they’ve been free of nicotine or tobacco products in any form for the prior thirty (30) days. They will also undergo a cotinine test as a part of the Occupational Health pre-placement drug screen administered after the offer of employment has been accepted but before the first day of hire.

Exemptions: Attending physicians (excluding CHOP physicians in the Care Network), psychologists, principal investigators and/or Penn-based faculty are exempt from this process to better align with our colleagues at the University of Pennsylvania Perelman School of Medicine.
Contact information

For further information, please contact Dana Lyall, BSN, RN.

CONTACT US
DIVISION OF
NEONATOLOGY
14 LOCATIONS

Contact Us
215-590-1653

Referrals
215-590-3083

https://www.chop.edu/pages/neonatal-physician-assistant-residency-program

9/17/2018
<table>
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<tr>
<th>INDICATOR/CRITERIA</th>
<th>TRIGGER</th>
<th>Number reviewed and/or denominators</th>
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<td><strong>Patient Care</strong></td>
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<td>Hep B Vaccination &lt; 2 kg by 30 days of age or parent refusal</td>
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<td>NRP certification</td>
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<td>CME per two years</td>
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<td>All charts</td>
<td>DOS</td>
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<td>MOC</td>
<td>Meet yearly MOC requirements</td>
<td>Provider</td>
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<td><strong>Interpersonal and Communication Skills</strong></td>
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<td>Chart Completion</td>
<td>Completion of charts within 7 days. Dept. Goal: 100% Trigger: less than 98%</td>
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<td>DOS</td>
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<td><strong>Patient, family, staff grievances</strong></td>
<td>Dept Goal: ≤ 1 per 6 month period Trigger: &gt; 1 per 6 month period will prompt review by NICU director or 2 or more in one year will also prompt a review</td>
<td>NICU director</td>
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<td><strong>Practice Based Learning Improvements</strong></td>
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<td>Unplanned extubation QI</td>
<td>Dept Goal: ≤ 2/100 Vent Days</td>
<td>NICU director</td>
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<td>Re-admission within 7 days</td>
<td>Dept Goal: ≤ 1/month</td>
<td>NICU director</td>
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<td><strong>System Based Practice</strong></td>
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PEER REVIEW PRIVILEGED AND PROTECTED CONFIDENTIAL DOCUMENT

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<tr>
<th>Professionalism</th>
<th>NICU director</th>
<th>Provider, NICU director, DOS</th>
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<tr>
<td>Attendance of inpatient Peds and NICU team meetings</td>
<td>Dept Goal: 75%</td>
<td>Trigger: less than 75%</td>
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<td>-% of exposed infants that require RX</td>
<td>-Goal, &lt; 50%</td>
<td>Trigger, &gt;65%</td>
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<tr>
<td>-Average LOS for NAS</td>
<td>-Goal: 18 days</td>
<td>Trigger &gt;24 days</td>
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REVIEW AND ATTESTATION

As the Director of Service for ________________, I have reviewed the results of the Ongoing Professional Practice Evaluation for the above named physician. I have taken the following action:

☐ I reviewed the findings and no further action is needed at this time.

☐ I reviewed the findings and discussed them with the Practitioner. The practitioner has been informed that if the threshold is exceeded for two semi-annual periods or more during this reappointment cycle, a Focused Professional Practice Evaluation.

☐ I reviewed the findings and discussed them with the practitioner. As a result, I am recommending a Focused Professional Practice Evaluation.

______________________________
Signature, Director of Service, (or delegate) Date

______________________________
Signature, Practitioner, Date
Summary

Physician Assistants have been employed in US healthcare for over 50 years however it is in the last twenty years that they have become embedded in paediatrics. Initially working as generalists, they have moved into the specialist care arena with more emphasis on within hospital working. During our visit to California and Colorado we spoke to many PA working in a multitude of environments within small and large specialist children’s hospitals and the equivalent of a district general hospital. There is no environment that they are unsuitable for with the right team around them. The approach to produce safe, caring and effective PA is via the correct education and training programmes, leadership and team working.

The trip demonstrated qualitative evidence to support the development of a PA paediatric workforce for the United Kingdom and there is quantitate evidence in the literature that considers other aspects of care such as safety, efficiency, remuneration, stability, resilience and sustainability. Postgraduate training programmes need to be developed that have appropriate supervision and longevity embedded as change takes time and needs time. Recently the Department of Health has agreed to regulate PA (4) which the faculty physician associates at the royal college of physicians has applauded (11).

Summary of recent literature

Over the last five years there has been a research base developed concerning the impact (quality & efficiency), safety and sustainability of the role of PA within the workforce. Whilst this has primarily been across a broad base of specialities or organisations there is some specific paediatric literature available.

Initially in the US PA were employed in primary care paediatrics (1). However, over the last decade more APP have been employed within general paediatrics and specialist paediatrics, this has been due to medical education reforms reducing the numbers of hours residents can work as well as the Affordable Care Act increasing the access of uninsured children to available paediatric care. The high cost of healthcare in the US which is 2.5 times similar nations has led to professional organisations to recommend the use of APP in new care delivery models. Mathur et al (9) reported on the five year experience of employing PA within a paediatric intensive care unit in New York and found that PA complement the residents providing consistency and knowledge of unit policy as well as demonstrating similar clinical skills in assessment and procedures. Riley provides commentary regarding how the residents advanced knowledge and understanding of disease is complemented by the APP knowledge of the unit specific policies and practice which help individual patients but also doctor orientation (10).

In 2018 DeWolfe (2) at al analysed data from 2007-11 in a large urban paediatric hospital to understand whether the outcomes for children were similar in those paediatric hospitalist teams staffed by physicians and those with APP. The average probability for discharge was 10% greater each day in those teams staffed with APP and the 3 and 30-day readmission rate was higher in the medically led teams for some
diagnosis. There was no difference in PICU admissions by either team from the patients seen. The healthcare teams staffed by APP appeared to perform at least as well as those staffed by physicians whilst the latter were more expensive. There is also demonstrable acceptance by parents of children being cared for by PA, especially if they can see an improvement in care experience such as reduction in waiting times in a paediatric emergency room (5). In two hospitals in Ireland 95% of respondents demonstrated a willingness to be seen by a PA rather than a doctor in an emergency, if they were appropriately trained and supervised in order to be seen sooner (8).

Drennan et al (3) used a mixed methods approach to understand the deployment of PA in the UK with 6 hospitals contributing to the investigation. The hospitals were of variable size with patients from variable socioeconomic backgrounds and geographical locality. PA had been employed due to rota gaps, poor training opportunities for junior doctors, increase in patient workload and a need to improve quality of care across both medical and surgical specialities in adult care and paediatrics. Most PA had initially been employed to cover ward areas thus allowing doctors to participate in outpatient clinics, attend theatre and obtain training opportunities with the deployment being team based rather than having initially having executive level support. Interviewers found that PA were very helpful, positive and indispensable to the service after short periods of time being moulded to the needs of the team over time. They improve patient flow by providing continuity, support the junior doctors, release doctor time to see more complex patients and improve patient safety by negating the need to employ locums. PA undertake clinical procedures and patients saw them working within teams and as such provided good care. The main hindrance was their inability to prescribe with the need to change this moving forward. However, the inability to prescribe has not been deleterious to efficiency of team working when the PA are appropriately supervised by doctors; with the time needed for this task being small compared with the extra number of patients PA can see thus reducing the primary care practitioner's workload (7).

A recent systematic review of PA working within secondary care supports the above conclusions. PA increase the capacity of teams, provide continuity, are acceptable to patients and staff and there are no negative effects on health outcomes and cost (6).
Action Plan

The type of education program required to upskill newly qualified PA to deliver paediatric care will be dictated by the expectations of their role. There are a number of levels of care delivery such as:

- Ward work Monday- Friday 9am-5pm facilitating early review, discharge, arranging investigations, liaising between teams and providing consistency for the parents and nursing staff
- Developing specific competencies within a specialised team
- Being able to review the acutely unwell child
- Being of a level 1 on call rota
- Being part of a level 2 on call rota

Suggestions of how to do this may include:

1. Developing an education package relating to paediatrics delivered by consultant paediatrics in the South Yorkshire & Bassetlaw (including Mid Yorks & Chesterfield) region. This will be open to all PA and ANP in training and delivered on a bi weekly or monthly basis in a central Yorkshire location. This should function as an introduction to paediatric practice and if the environment is suitable, patients may be invited to allow some interaction and examination.
2. To allow PA to work on the wards looking after children: A competency based program of between 3-6 months in length dependent upon achievement.
3. To allow PA to work in paediatrics on the level 1 rota: A proposal to be developed for a paediatric preceptorship programme that will allow PA graduates 15-18 month supernumerary placements in South Yorkshire Hospitals prior to a guaranteed three year employment in the region. The placements will include DGH paediatrics (6months), Jessops NICU (3 months), SCH PICU (3 months) and two specialist paediatric posts at SCH.
4. Development of a proposal of employment with longevity for PA within paediatrics for the South Yorkshire and Bassetlaw region.
5. To work with the Department of Health, Royal College of Paediatrics and Child Health and other organisations to facilitate the regulation, training, prescribing and ongoing development of PA.

Ward Based working

A competency based package led by the requirements for ward work focusing on:

- Examining the child
- History taking children & families
- Common procedures such as blood taking and cannula insertion using DOPS
- Prescribing children
- Requesting common investigations in children
- Assessment of common medical presentation in children and their differential diagnosis with use of CBD

A portfolio will be kept with a review every two weeks by a consultant paediatrician until the required competencies are met.
Preceptorship (designed by Dr Simon Clark)

Paediatric Physician Associate Preceptorship
There are around 450 physician associates in training per year in the UK. This is set to rise to around 1000 over the next few years. Physician associates only have to undertake around 3 weeks of paediatric experience during the course. This is not enough for them to be effective in paediatric practice following qualification. This proposal aims to deliver at scale a pipeline of paediatric ready physician associates for South Yorkshire and Bassetlaw.

Likely regional need of Physician Associates
Given the current infrastructure, paediatric infrastructure, national standards, likely changes to medical training and increasing paediatric secondary care demands the South Yorkshire and Bassetlaw are will need around 110 paediatric physician associates over the next 10 years. This takes into account change in technology, unit reconfiguration and working practices.

To effect change at the correct pace and scale the Faculty of Advanced Clinical Practice in South Yorkshire and Bassetlaw recommends the development of a paediatric ready physician associate preceptorship. This programme would be for 8 to 12 qualified physician associates per year for the next 10 years. All those successfully completing the preceptorship would be guaranteed a job interview within the region for a paediatric post.

Principles of the Preceptorship
The Faculty would work with the school of paediatrics to deliver supervision and any required training. All physician associates would
1. Be allowed to attend the relevant day release training programmes run by the school of paediatrics, including simulation training days.
2. Be expected to complete the Newborn Life Support Course and the Advanced Paediatric Life Support course.
3. Get an educational and clinical supervisor. All physician associates would be expected to use either the practitioner electronic portfolio (equivalent to the one used by foundation doctors), or the electronic portfolio from the Royal College of Paediatrics and Child Health
4. Obtain a report from each training placement, help on the electronic portfolio of their choice.
5. Be expected to complete the required clinical skills to the minimum of a foundation year 2 doctor. At least 2 clinical academic support panel (non-medical equivalent of the annual review of competency progression meetings for doctors) meetings would need to occur during the preceptorship; one at the midpoint and one final meeting to sign of completion of the programme.

Each part of the rotation would need to deliver
1. A 3 day supernumerary comprehensive induction programme. Each part of the rotation would need to have a graded progression during the placement.
2. A named clinical supervisor, who should meet with the physician associate 3 times and who is responsible for the final sign off of the placement.

3. Each rotation would need to have 2 physician associates to prevent professional isolation.

The physician associates would be fully funded through regional budgets and employed by one organisation, which oversaw recruitment.

Costs
On the starting point of band 7 agenda for change £33,222, with 30% on call costs makes around £43,189, with 20% uplift for statutory leave £51826. There is also required consultant supervision time, which would cost around £2340 per physician associate per year. There would be the one off costs of courses, about £700 and the cost for electronic portfolio £200 per year. Hidden costs would include recruitment, potential relocation and travel expenses, as well as access to the regional education programmes.

However an estimate for 12 month preceptorship would be for £55,066 per physician associate. For 18 months it would be £82,249 and for 24 months: £109,432. Therefore, a rotation of 12 physician associates for 12 months will be £660,792, over 18 months £986,988 and 24 months £1,313,184.

Possible rotation structures
There are 3 versions suggested for comparison of output, funding, and timing: 12 month preceptorship; 18 months and 24 month.

1. For the 12 months preceptorship, the possible distribution of posts could be:
   6 months district general paediatrics, including neonatal experience
   3 months tertiary neonatal experience of postnatal work and attending deliveries
   3 months specialist paediatric work

2. For the 18 months preceptorship, the possible distribution of posts could be:
   6 months district general paediatrics, including neonatal experience
   8 months tertiary neonatal experience
   4 months specialist paediatric work

3. For the 24 months preceptorship the possible distribution of posts could be:
   6 months district general paediatrics, including neonatal experience
   6 months tertiary neonatal experience
   4 months each of specialist paediatric work, surgical paediatrics and emergency department paediatrics
A suggested rotation is below, but is only for illustration purposes:

<table>
<thead>
<tr>
<th>Physician Associate</th>
<th>Location 1</th>
<th>Location 2</th>
<th>Location 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6 months Barnsley</td>
<td>3 months specialty work Sheffield Children’s (SCH)</td>
<td>3 months Jessop Wing</td>
</tr>
<tr>
<td>2</td>
<td>6 months Barnsley</td>
<td>3 months specialty work SCH</td>
<td>3 months Jessop Wing</td>
</tr>
<tr>
<td>3</td>
<td>6 months Rotherham</td>
<td>3 months specialty work SCH</td>
<td>3 months Jessop Wing</td>
</tr>
<tr>
<td>4</td>
<td>6 months Rotherham</td>
<td>3 months Jessop Wing</td>
<td>3 months specialty work SCH</td>
</tr>
<tr>
<td>5</td>
<td>6 months Doncaster/Bassetlaw</td>
<td>3 months Jessop Wing</td>
<td>3 months specialty work SCH</td>
</tr>
<tr>
<td>6</td>
<td>6 months Doncaster/Bassetlaw</td>
<td>3 months Jessop Wing</td>
<td>3 months specialty work SCH</td>
</tr>
<tr>
<td>7</td>
<td>3 months specialty work SCH</td>
<td>3 months Jessop Wing</td>
<td>6 months Barnsley</td>
</tr>
<tr>
<td>8</td>
<td>3 months specialty work SCH</td>
<td>3 months Jessop Wing</td>
<td>6 months Barnsley</td>
</tr>
<tr>
<td>9</td>
<td>3 months specialty work SCH</td>
<td>3 months Jessop Wing</td>
<td>6 months Rotherham</td>
</tr>
<tr>
<td>10</td>
<td>3 months Jessop Wing</td>
<td>3 months specialty work SCH</td>
<td>6 months Rotherham</td>
</tr>
<tr>
<td>11</td>
<td>3 months Jessop Wing</td>
<td>3 months specialty work SCH</td>
<td>6 months Doncaster/Bassetlaw</td>
</tr>
<tr>
<td>12</td>
<td>3 months Jessop Wing</td>
<td>3 months specialty work SCH</td>
<td>6 months Doncaster/Bassetlaw</td>
</tr>
</tbody>
</table>

If this is funded from regional transformation money the total salary of the physician associate would be held by the lead employing organisation. Therefore, each organisation participating in the rotation would only receive the cost of consultant supervision. However, they would have no employment costs and receive the work done by the physician associate in lieu of a training placement fee. Any unsocial hours payments would need to be met by the training institution.

References
1. Committee on Hospital Care Schaeffer HA. The role of the Nurse Practitioner and Physician assistant in the Care of Hospitalised Children. *Paediatrics*, 1999; 103 (5): ...........


Biographies

Dr Simon J Clark BM, MSc, MD, MRCP, FRCPCH

As a day (night and weekend) job I have been a Neonatal Consultant since 2003. This is at the Jessop Wing for Sheffield Teaching Hospitals National Health Service Foundation Trust. This hospital services a city population of 500,000, but as a regional centre we have a catchment population of 1,340,000.

I have been interested in workforce planning for many years and was appointed the national workforce planning officer for the Royal College of Paediatrics and Child Health in 2014. Since then I have re-focused the United Kingdom workforce plans towards increasing training numbers and consultants.

I am involved in the regional training of advanced nurse practitioners and physician associates/assistants. As well as planning for staffing numbers required to achieve a true breadth and depth of workforce plurality.

Martin McCollan
Workforce Information Manager – Royal College of Paediatrics and Child Health (RCPCH)

I have held this position since 1999. In that time I have managed the College’s biennial workforce census and have been involved in numerous pieces of research and projects supporting the College’s workforce and health policy including the Facing the Future Series. Most recently, in 2017 I managed a project in collaboration with the British Association for Community Child Health to produce updated workforce planning guidance for community paediatrics called Covering All Bases.

The evidence we produce is used by the College, its members and officers to lobby for appropriate workforce development in terms of both numbers and competencies.

In addition to our data collection projects, I am working on demand modelling for child health services, regional workforce differences in the UK and models of non-medical workforce solutions. I am particularly interested in developing evidence-based workforce models for informing workforce planning and commissioning. Before joining the College, I worked on specifying and managing database systems.

Outside of work, I run, cycle, cook and travel as much as possible.
Nicola Jay, Consultant Paediatrician and Clinical Lead acute paediatric managed clinical network for the integrated care system

After qualifying as a doctor in London (MBBS, BSc physiology) I have trained in paediatrics across three regions (Nottingham, Sheffield and Birmingham) with post graduate qualifications in Health Care Leadership (MSc) as well as Ethics & Law (PgDip). I have worked at Sheffield Children’s Hospital as a consultant in paediatric allergy for a decade with research interests being prevention of food allergy as part of the BEEP study, looking at minority population to improve health, moving allergy services into the community to improve access and de-labelling of antibiotic allergy. I sit on the paediatricians in medical management committee at the RCPCH which advises on national health policies and standards for young people and am a council member for the clinical senate of Yorkshire & Humber which gives impartial advice to clinicians. Central to my vision is an NHS that unites across currently recognised boundaries to provide seamless care for all children that need health care.

My main additional role is as the clinical lead for the acutely unwell managed clinical network of South Yorkshire and Bassetlaw (Barnsley, Bassetlaw, Doncaster, Rotherham, Sheffield and Chesterfield/Mid Yorks NHS Trust). The MCN is a workstream of the Integrated Care System (ICS) aiming to improve equity of access, quality of care and subsequent reduction in inequalities of health for the children in our region by working closely together. We will do this by

- Harmonising guidelines for common childhood conditions across prehospital (families & emergency services) primary and secondary care
- Develop resources for families to know how to help their children when they are unwell
- Ensure we all use the same scoring systems and quality indicators so that when we talk to each other we all understand the language used with less confusion
- Ensure our GP practices & hospitals have the best staff to look after children as well as enough of them in permanent positions
- Develop new ways of working so that a child is always seen in the right place at the right time by the right person.
Jane Clawson,  
**Deputy Director of Human Resources and Organisational Development**

Jane Clawson is Deputy Director of Human Resources and Organisational Development at Sheffield Children’s NHS Foundation Trust and has held this position since 2014. She has worked in HR in the NHS since 2000 in acute and community adult and paediatric healthcare settings and has extensive experience in employment relations management and workforce restructuring. Jane is a Member of the Chartered Institute of Personnel and Development (MCIPD) and has an MSc in Business Studies.

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Emma Andrews  
**Network Manager**

**Acutely Unwell Child Managed Clinical Network**  
**Children’s Surgery and Anaesthesia Managed Clinical Network**

I joined the Managed Clinical Networks (MCN) in June 2017. Over the past 12 months I have worked with the Clinical Leads to establish 2 MCNs across the South and Mid Yorkshire, Bassetlaw and North Derbyshire region. The MCNS seek to bring together clinicians across the region to develop an expert clinical view on children’s health services. Currently this is focused on the Acutely Unwell Child and Children’s Surgery and Anaesthesia. This expert clinical view provides advice to, and feedback on, service developments and improvements. Clinicians and organisations are seeking to work together to reduce inequalities, drive service improvement and to support the delivery of high quality, safe health services for the children and families of this region.

I joined the NHS in 2004 and since then have worked within Networks and Health Management for much of this time, This has allowed me to understand the complexity of the health service and work with multiple stakeholders in an often challenging, financial and policy driven environment. Due to this experience I believe that multidisciplinary and cross organisational working is incredibly valuable in establishing quality services, sustainability and the delivery of service change. My career has also involved working in the New Zealand Health system for three years working within both a large provider organisation and the planning and funding division of the District Health Board. I was involved in designing and launching an Acute Demand Management Service which later expanded into the Canterbury Initiative, an internationally recognised model of care.

In summary I am passionate about ensuring high quality, safe, equitable and cost-effective sustainable services are delivered to all patients. I believe that networked regional working is a stronger and more robust way to deliver safe and sustainable models of care and service improvement.
Tracy Barker
Senior Matron Children's Services, Chesterfield Royal Hospital

I trained as a Paediatric Nurse at Bristol Children’s Hospital (UK) qualifying in 1994. Following time working at Bristol Children’s Hospital in a variety of departments including oncology and Accident & Emergency I moved to Derbyshire and worked within a school for children with Autism and significant learning disabilities and complex medical needs.

Following this I took a job at Chesterfield Royal Hospital paediatric medical ward, with specialist interests with learning disabilities and Child Protection.

During the time I have continued to work at Chesterfield Royal Hospital I have been promoted to ward manager, Paediatric Matron and now Senior Matron for children's services managing the inpatient and outpatients department, and I also coordinate the Paediatric and CAMHS (Child and Adolescent Mental health Service) Eating disorder service which provides a local service and avoids children being transferred to Tier 4 specialist services.

As well as clinical responsibilities I have lead role with representing children's voices for the hospital as it is predominately an adult focused Trust.

Other significant aspects of my role are within the quality and Clinical governance arena as the paediatric nursing lead including audit, risk management, ensuring engagement and leadership role for paediatric nursing staff.

My current development role at Chesterfield is as the divisions lead in implementing a Paediatric Assessment Unit and pathways from the developing Urgent care village into pediatrics’ which will be challenging, but I hope will have significant impact on the care that children receive.

During my time in nursing I have never had the opportunity to observe paediatric nursing within another country and am looking forward to having the opportunity to see how services are delivered and learning from all that I see.