

# South East Diabetes Footcare Inequalities Pack

January 2021



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# Introduction

NHS South East Clinical Delivery and Networks has a focus on reducing inequalities in the delivery of diabetes footcare services to reduce ulcerations and amputations.

This pack contains data on the number of diabetes lower limb amputations that happen nationally and locally, to demonstrate where there are potential opportunities for addressing equality and tackling diabetes foot care inequalities. It contains information on different interventions that may help address these issues.

It is the role of Sustainability and Transformation Partnerships (STPs) and Integrated Care Systems (ICSs) to consider which interventions could be appropriate for their local populations, and to engage with other STPs to seek examples of successful implementation.

Commissioners should continue to use this pack and supporting toolkit to drive local action and reduce the inequality in access to services and in achievable health outcomes.

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## Data source

- Data source is Diabetes Foot Care Profile (Hospital Episode Statistics, National Diabetes Audit, Quality and Outcomes Framework) and downloaded from Public Health England Fingertips.
- The data only include patients over aged 17 years old as QOF Diabetes Mellitus Register does not include patients under 18.
- The latest data period is 2016/17 to 2018/19.
- The indicators have been standardised for relevant demographic characteristics of the local diabetic population, allowing for comparisons to be made between CCG areas. CCG areas are based in 2018/19 and STP groups are before April 2020.

## Summary

- In the most recent period of 2016/17 to 2018/19 (3 years), there were 1,185 major lower-limb amputation procedures and 3,460 minor lower-limb amputation procedures carried out in South East. Both rates are similar to the previous period of 2015/16 to 2017/18.
- There is variability across the South East on lower-limb amputation rates for major and minor procedures.
- Most of areas have similar major lower-limb amputation rate comparing to England average, except NHS Swale CCG, NHS Portsmouth CCG, NHS Southampton CCG
- Most of areas also have similar minor lower-limb amputation rate comparing to England average, except most CCGs at Hampshire & IOW STP and NHS Swale CCG, NHS Thanet CCG & NHS West Kent at Kent and Medway STP



## Overview- Diabetic Lower-limb amputation (age 17+)

2016/17 - 18/19 (3 years data)

		Major procedure		Minor procedure	
		Standardised Rate	Numbers	Standardised Rate	Numbers
<b>England</b>		<b>8.23</b>	<b>7,809.00</b>	<b>22.01</b>	<b>20,973.00</b>
Buckinghamshire, Oxfordshire and Berkshire West STP	<b>BOB STP</b>	<b>7.23</b>	<b>170.00</b>	<b>19.09</b>	<b>460.00</b>
	NHS Berkshire West CCG	6.99	45.00	20.12	135.00
	NHS Buckinghamshire CCG	6.60	50.00	18.72	145.00
	NHS Oxfordshire CCG	7.67	75.00	19.00	180.00
Frimley Health & Care ICS (STP)	<b>Frimley Health ICS</b>	<b>7.58</b>	<b>80.00</b>	<b>22.19</b>	<b>235.00</b>
	NHS East Berkshire CCG	7.82	45.00	21.44	125.00
	NHS North East Hampshire And Farnham CCG	7.81	25.00	24.96	85.00
	NHS Surrey Heath CCG	*	10.00	17.86	25.00
Hampshire and the Isle of Wight STP	<b>Hampshire &amp; IOW STP</b>	<b>9.88</b>	<b>310.00</b>	<b>29.92</b>	<b>940.00</b>
	NHS Fareham And Gosport CCG	9.20	40.00	27.16	120.00
	NHS Isle Of Wight CCG	5.96	20.00	35.73	85.00
	NHS North Hampshire CCG	8.71	35.00	26.78	85.00
	NHS Portsmouth CCG	13.71	50.00	27.58	105.00
	NHS South Eastern Hampshire CCG	7.44	35.00	30.79	145.00
	NHS Southampton CCG	11.73	45.00	39.09	160.00
	NHS West Hampshire CCG	9.96	85.00	26.84	240.00
Kent and Medway STP	<b>Kent and Medway STP</b>	<b>8.81</b>	<b>290.00</b>	<b>26.43</b>	<b>885.00</b>
	NHS Ashford CCG	9.04	20.00	14.16	35.00
	NHS Canterbury And Coastal CCG	7.13	25.00	25.78	85.00
	NHS Dartford, Gravesham And Swanley CCG	8.84	35.00	25.83	110.00
	NHS Medway CCG	7.98	45.00	25.23	140.00
	NHS South Kent Coast CCG	8.23	35.00	27.66	120.00
	NHS Swale CCG	17.46	40.00	34.16	90.00
	NHS Thanet CCG	12.12	35.00	34.38	100.00
Surrey Heartlands STP (pre 4/20)	<b>Surrey Heartlands STP</b>	<b>8.06</b>	<b>100.00</b>	<b>21.56</b>	<b>270.00</b>
	NHS Guildford and Waverley CCG	4.61	15.00	23.94	70.00
	NHS North West Surrey CCG	10.04	55.00	23.58	125.00
	NHS Surrey Downs CCG	7.73	30.00	17.38	70.00
Sussex and East Surrey STP (pre 4/20)	<b>Sussex and East Surrey STP</b>	<b>7.25</b>	<b>235.00</b>	<b>20.32</b>	<b>670.00</b>
	NHS Brighton And Hove CCG	8.78	30.00	25.05	85.00
	NHS Coastal West Sussex CCG	8.18	95.00	18.98	205.00
	NHS Crawley CCG	7.85	15.00	22.40	40.00
	NHS East Surrey CCG	*	10.00	25.30	65.00
	NHS Eastbourne, Hailsham And Seaford CCG	7.79	30.00	18.92	75.00
	NHS Hastings And Rother CCG	7.22	30.00	17.63	70.00
	NHS High Weald Lewes Havens CCG	4.91	10.00	22.18	55.00
	NHS Horsham And Mid Sussex CCG	4.91	20.00	20.28	70.00

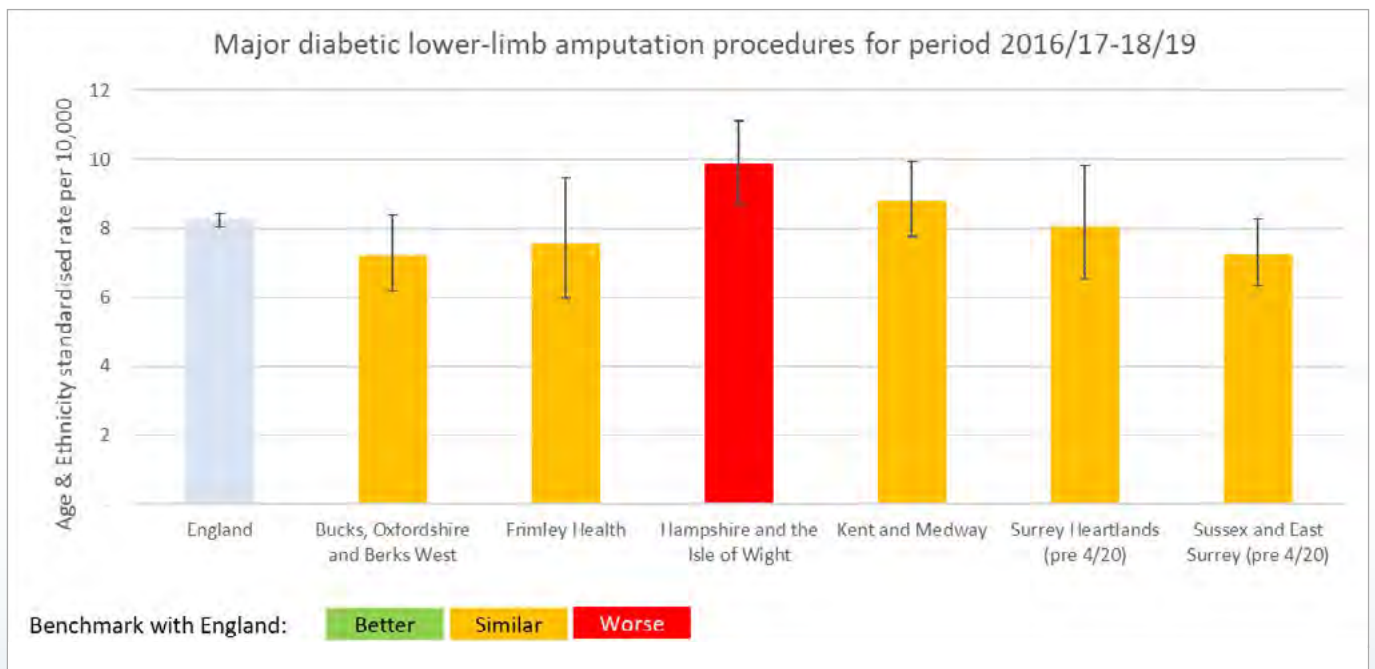
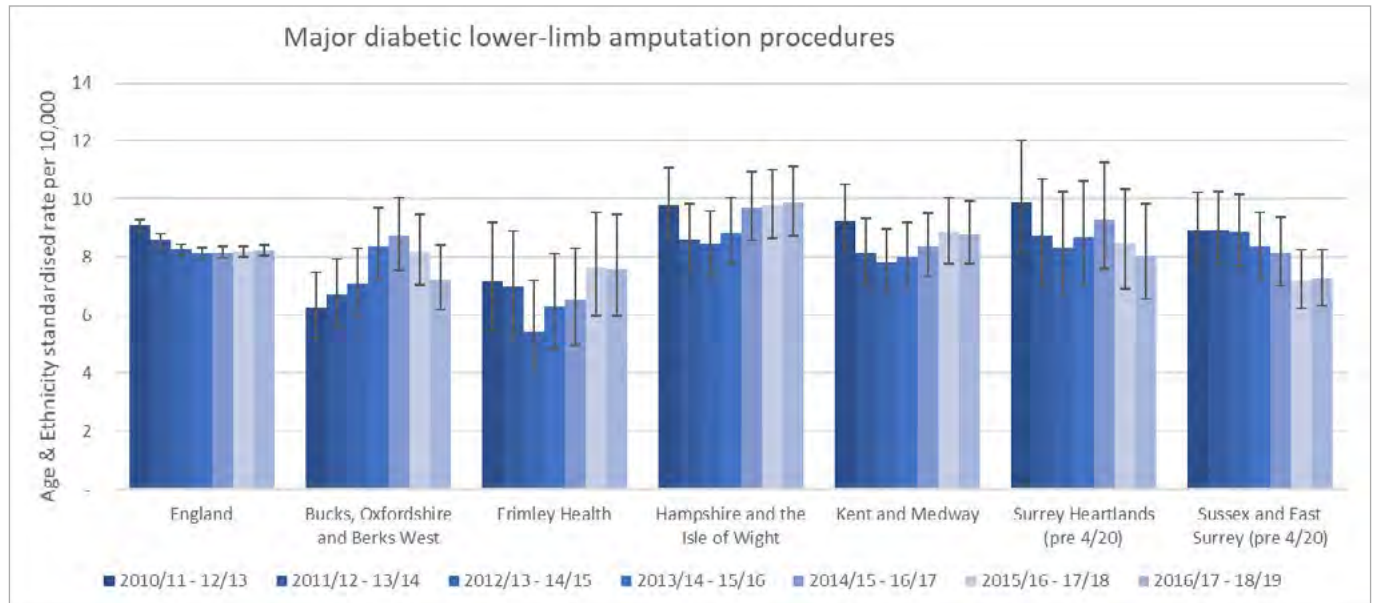
Benchmark with England

Better
Similar
Worse

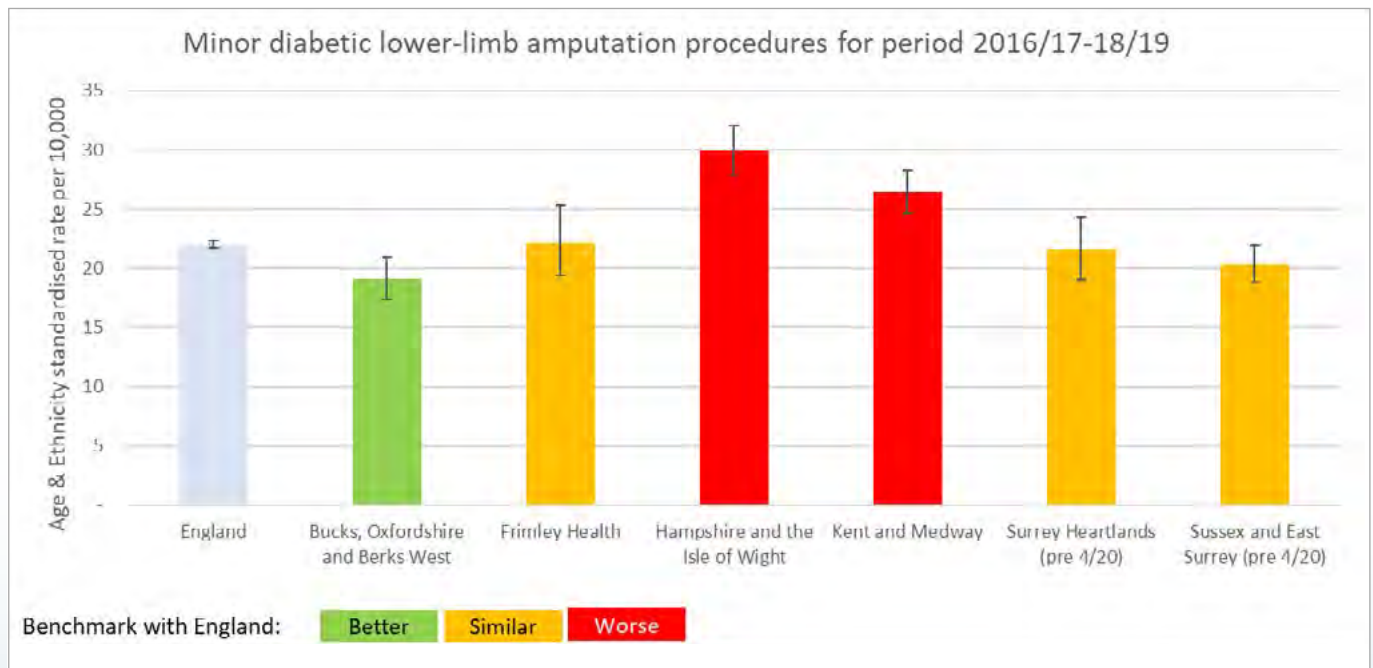
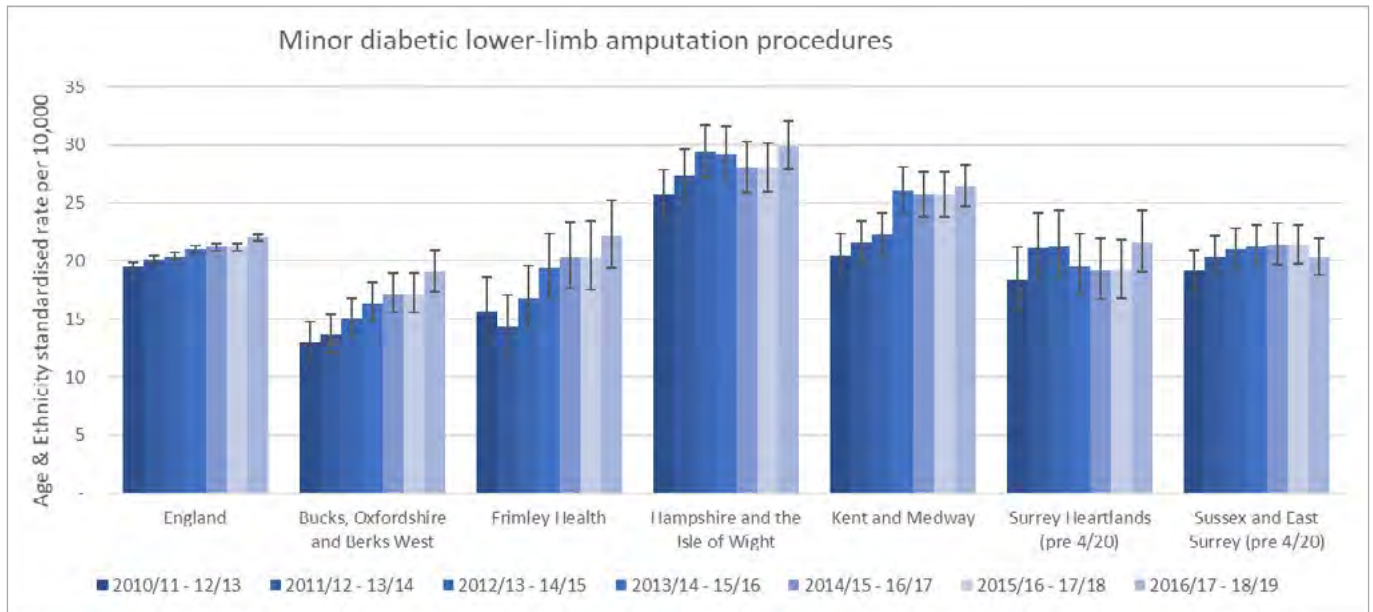
Note: Directly (Age & ethnicity) standardised rate

\* Value cannot be calculated as number of cases is too small

## Major Diabetic Lower-limb amputation



# Minor Diabetic Lower-limb amputation



## The National Picture: Ulcer and Amputation Rates

Ulcers and amputation rates:

Every year around 9,000 people with diabetes have lower limb amputations

- Over half of these are avoidable
- Around 77,000 people with diabetes in England currently have an ulceration, which can substantially reduce the quality of that person's life.
- Delays in accessing appropriate care are associated with poor limb-salvage outcomes

### The Financial Cost:

- The cost of diabetic foot disease in England is almost 1% of the health service budget.
- For the year 2014-15, it is estimated that the cost to the NHS in England of treating ulcerations and amputations is between £972 million and £1.13 billion
- For every £140 that the NHS spends, £1 is spent on diabetic foot problems

Table 1 shows the complete costs for ulcers and amputations on an individual per case basis.

**Table 1**

Unit costs, utilities and transition probabilities used in economic analysis of impact of MDT	
Major amputation (acute care)	£10,668
Major amputation (post discharge care), lifetime therapies cost	£ 5,519
Ulceration (acute care)	£376 per bed day
Ulceration (primary and community care)	£218 per week
Minor amputation (acute care)	£3,956
Minor amputation (post discharge care), lifetime therapies cost	£1,038

**Table 2**

Estimated lifetime cost of post-amputation care for a one-year cohort of patients	
Lifetime cost of Prosthesis provision and care	£12,614
Wheelchair assessment, provision, review and maintenance	£ 1,000
Physiotherapy for major amputation	£ 1,252
Physiotherapy for minor amputation	£ 417
Transportation	£ 121
Total cost	£15,404

## Litigation cost

### As reported in the Diabetes GIRFT Programme National Speciality Report, November 2020:

As diabetes and related complications involve a wide range of surgical and medical specialties, NHS Resolution does not have a separate claims category specifically for diabetes.

To analyse claims, we sourced data on all medical negligence claims between April 2013 and April 2018 and performed a word search using diabetes-related search terms. Based on these results, we concluded that several of the most common causes of claims are patient safety issues that can be reduced through measures such as safer administration and management of insulin and effective footcare to prevent ulceration.

## Commissioning NICE compliant services

Diabetic foot problems: prevention and management - NICE guideline [NG19]

Published date: 26 August 2015 Last updated: 11 October 2019

- 1.1 Care within 24 hours of a person with diabetic foot problems being admitted to hospital, or the detection of diabetic foot problems (if the person is already in hospital).
  - 1.1.1 Each hospital should have a care pathway for people with diabetic foot problems who need inpatient care.
  - 1.1.2 A named consultant should be accountable for the overall care of the person, and for ensuring that healthcare professionals provide timely care.
  - 1.1.3 Refer the person to the multidisciplinary foot care service within 24 hours of the initial examination of the person's feet. Transfer the responsibility of care to a consultant member of the multidisciplinary foot care service if a diabetic foot problem is the dominant clinical factor for inpatient care.
  - 1.1.4 The named consultant and the healthcare professionals from the existing team should remain accountable for the care of the person unless their care is transferred to the multidisciplinary foot care service.
- 1.2 **Care across all settings**
  - 1.2.1 Commissioners and service providers should ensure that the following systems are in place:
    - A foot protection service for preventing diabetic foot problems, and for treating and managing diabetic foot problems in the community.
    - A multidisciplinary foot care service for managing diabetic foot problems in hospital and in the community that cannot be managed by the foot protection service. This may also be known as an interdisciplinary foot care service.
    - Robust protocols and clear local pathways for the continued and integrated care of people across all settings including emergency care and general practice. The protocols should set out the relationship between the foot protection service and the multidisciplinary foot care service.
    - Regular reviews of treatment and patient outcomes, in line with the National Diabetes Foot Care Audit.

- 1.2.2 The foot protection service should be led by a podiatrist with specialist training in diabetic foot problems, and should have access to healthcare professionals with skills in the following areas:
- Diabetology
  - Biomechanics and orthoses
  - Wound care.
- 1.2.3 The multidisciplinary foot care service should be led by a named healthcare professional, and consist of specialists with skills in the following areas:
- Diabetology
  - Podiatry
  - Diabetes specialist nursing
  - Vascular surgery
  - Microbiology
  - Orthopaedic surgery
  - Biomechanics and orthoses
  - Interventional radiology
  - Casting
  - Wound care.
- 1.2.4 The multidisciplinary foot care service should have access to rehabilitation services, plastic surgery, psychological services and nutritional services.
- 1.2.5 Healthcare professionals may need to discuss, agree and make special arrangements for disabled people and people who are housebound or living in care settings, to ensure equality of access to foot care assessments and treatments for people with diabetes.
- 1.2.6 Take into account any disabilities, including visual impairment, when planning and delivering care for people with diabetes.

## GIRFT report/diabetes

### Diabetic footcare - Effective diabetic footcare services

All trusts should have a dedicated multi-disciplinary footcare service (MDFS) as stated in the NHS Long Term Plan and NICE NG19. The service should be well integrated with the community footcare protection service (FPS), and with hospital renal wards and dialysis units given the increased risk of amputation for diabetic patients in these areas. CCGs and STPs should ensure that community foot protection teams are trained to carry out foot screening and that the community service is structured to deliver the standards recommended in NG19.

### Vascular networks

Everyone with a diabetic footcare emergency requiring admission should be assessed the same day by the MDFS. If the MDFS identifies vascular impairment, they should have same day access to a vascular opinion, according to NICE NG19, whether the hospital is a vascular service hub or a spoke. If the MDFS is not present, the patient must still be assessed same day, which may require transfer to the vascular service.

## South East Diabetes Foot Peer Review (2018-2020):

Previous peer reviews of diabetic foot services had shown a powerful negative correlation between major amputation incidence and service provision. Based on these findings Paisey et al (2018) strongly recommended robust commissioning to provide and coordinate 10 key service provisions for diabetic foot care in all CCGs.

### Key service provisions

(associated with improvement in diabetes-related major amputation incidence):

- patient education at annual review
- regular community healthcare professional education
- adequate podiatry community staffing with rotation in to MDFT
- job planned MDFT
- administrative support
- pathways and communication of plan of care to patient
- identification of diabetic in-patients and their foot checks
- orthotist an integral part of MDFT
- urgent vascular opinion available to foot clinic staff
- NDFA participation and ulcer database (NDFA = national diabetes foot audit)

Diabetes foot care MDFT peer reviews were carried out across the south east region by the same peer review team (Dr Richard Paisey and Angela Abbott) during 2019-20. The common recommendations for these were:

- patient self-referral to podiatry
- access to diabetes foot 'hotlines'
- NDFA participation digital database for ulcers
- remove barriers to care across patient pathway/patient journey
- make the referral process for staff as easy as possible
- only commission NICE compliant services
- ensure ongoing monitoring of services against NICE standards
- meet recommendations for inpatient care - from alerting, to foot checks, to rapid referral, to staff in post
- waiting times are in line with NICE recommendations for the whole pathway
- provide structured education for patients (diabetic foot videos: <https://healthandcarevideos.uk/>)
- mandatory diabetic foot training for practice staff e.g. (FRAME)
- podiatry advanced practice work force development: NMP prescribing, IRMER trained X-ray, Duplex scans
- ensure community podiatry treatment interventions are in line with NICE, vascular assessment ABPI, MSK assessment and offloading
- root cause analysis of amputations
- develop a 'no blame' culture and instil a system for shared learning

## Appendix

# Case studies of successful implementation of recommendations across the south east region



## Sussex STP

### The Sussex and East Surrey Diabetic Foot Screening Training Programme

The electronic Learning for Health (e-LfH) Diabetic foot screening and assessment package, was put together to deliver to healthcare professionals and carers involved in the care of people with diabetes. The package was quality assessed in January 2019 for the NHS England South East network.

The package focused on identifying the key risk factors for diabetic foot disease and how they arise, how to test for the presence of the risk factors, and the pathway options for risks identified. There was a practical demonstration and then observation of the participants performing the screening tests. The training ended with a group Q&A on the e-LfH assessment presentation to assess and embed the learning. Participants were then directed to the e-LfH site to complete the online assessment individually for certification. Virtual training was relaunched November 2020 via video conferencing.

RCA learning shows that patients so often were not given appropriate or timely education as to risk factors. These are now included in the training, to address the modifiable risks and promote key diabetes principles of good blood glucose control, blood pressure, smoking cessation and patient education, as good preventative practice in diabetic foot disease.

## Surrey Heartlands ICS

### Diabetes foot assessment training for practice staff

It will be mandatory for all practice staff who perform annual diabetes foot assessments to complete and undertake an e-learning diabetes foot screening course, FRAME ([www.diabetesframe.org](http://www.diabetesframe.org)). This is to ensure standardisation of assessments and certified training for staff.

## Surrey and Sussex:

### Virtual MDFTs, SASH, First Community Health and Sussex Community Health and Surrey Downs Podiatry Services

The community podiatry services and the SASH MDFT adapted their approach to care delivery, with remote consultations being used where possible, during Covid 19. Delivery of MDFT clinics through video conferencing, using 'NHS Attend Anywhere' software, has enabled patients to have an MDFT consultation without needing to physically attend the acute hospital site (SASH), instead they have been able to attend their local community podiatry clinic and have a consultation via video conferencing.

This has also served to strengthen communication and pathways between the community podiatry services and the hospital MDFT.

## Kent:

### Kent Community Health Care, Digital wound care assessment

Wound Matrix is a digital app being used in Kent, via a tablet that all podiatrists, tissue viability nurses, wound centre staff and community nurses use to record images of wounds ideally at every contact. There is work continuing on integrating the app into clinical records systems and to make it functional on laptops or via smartphones.

Within the app or on a PC, the wound is measured by calibrating against a scale marker and then taking measurements of the wound size. There is the ability to measure different areas of tissue type. The measurements automatically populate a graph and can show the user at a glance if the wound is increasing or decreasing in size. There is the ability to record all wound related clinical notes in the system and it is linked to the local formulary.

There is a dashboard that allows performance in managing wounds to be reviewed and it can be narrowed down to look at individual wound types e.g. diabetic foot ulcer or venous leg ulcer and by clinicians or areas to give meaningful data on wound management.

During Covid, this app has enabled virtual advice to be sought from specialist vascular, orthopaedics and diabetes teams. It has also allowed the podiatry team to manage patients in the community until a very swift admission, intervention and discharge could be arranged to minimise risk for the patients.

## Hampshire:

### Independent prescribing for podiatrists at Solent NHS Trust

#### **Infection: Timely supply of the right antibiotics post amputation of Right 4th toe.**

A 54 year old female, with type 2 diabetes with poor control (HbA1c 98 mmol/mol), poor concordance and a high DNA rate, presented with a grossly infected neuropathic Right 4th toe. This toe had been managed within primary care for several weeks and was not referred immediately when her ulcer started, as per the pathway. She was only referred several weeks later with this grossly infected and swollen toe. At this point, she required immediate admission to secondary care for amputation of her Right 4th toe. In addition, she was frustrated and upset at this as this meant that she would not be able to start her new job as a domestic, which she had been offered as she had been unemployed for several months.

She was subsequently discharged back to Solent's Podiatry team to manage the post-surgical wound. This started healing well and was infection free. Then the wound bed started to change and to form an abundant amount of hyper granulation tissue over the surgical site indicating osteomyelitis - see below.



On review, one of Solent's Podiatry Non Medical Independent Prescriber (NMIP) initiated a six week course of Clindamycin 300mg QDS. Subsequent X rays confirmed Osteomyelitis of the 4th and 5th metatarsal heads. The plan was as the osteomyelitis was extensive, she would undergo amputation of her R 4th and 5th rays. She was very concerned with this as this would lead to more time off work and she didn't want to lose another toe. She was electively booked for her amputation.

After four weeks of her clindamycin, her surgical wound was fully resolved, and she was able to cancel her planned amputation. This outcome was very positive for this lady.





In prescribing the Clindamycin, the Podiatry NMIP was able to demonstrate the impact of prescribing at the point of care and not relying on writing a letter and sending to the patients GP and awaiting the prescription from the GP side.

### Impact and savings of Podiatry NMIP:

- **Value V:** the interventional cost of prescribing = cost of prescription from Pod or GP (with dispensing cost). Podiatry prescribing antibiotics is cost at least coast neutral to the health economy as the antibiotic drug is required so if there no Podiatry NMIP then the GP prescribes the drug and if the if there is a Podiatry NMIP, then the drug is prescribed at the Podiatry point of care and the patient can start the course ASAP with out any process / admin delays.
  - o For a podiatrist to request antibiotic from a GP, there can be push back. Resistance as the GP has not seen the patient and is therefore taking the prescribing responsibility for this without contact with the patient
  - o COVID-1 has shown that Podiatry NMIP has made a difference in prescribing as the patient contacts are reduced from just Podiatry and the Pharmacy, avoids delay and improves patient experience.
  - o Podiatry WTE is cheaper than a GP WTE
- **Value W:** Cost of Podiatry processing a GP request for Antibiotics. This is value is made up the cost of the Podiatrist (A) formulating a letter, plus the Podiatry admin (B) to send + GP admin time (C) + GP time to process (D) + Pod time to check it has been done (E)
- **Value X:** Delay in Patient receipt of Antibiotics – 24-72 hours (hard to cost out but impact high on infection as severity may increase result in an increase in NEWS2 score requiring admission; inconvenience to the patient; impact on patient experience; impact on quality of care
- Value Y and impact on patient and health economy: Onwards cost saving of preventing a hospital admission

Value V = £

Value W + Value X = £

Therefore: Value V is Less than (Value W + Value X) and with / without Value Y

For this example, I prescribed Clindamycin 300mg QDS for 6 weeks for bone infection and if not successful the patient was due to have the toe removed. The prescribing cost of £200.36 for 6 weeks – and this saved the admission and minor amputation at a cost of Amputation, plus the cost of the potential GPs time.

## Oxford Health Community Podiatry

### Staff training/advanced clinical practice

Established close working relationship with community podiatry and the acute podiatry service at Oxford Health and MDT diabetic foot team – one band 8a and 7 community diabetes podiatrists (band 7) rotate weekly into wound clinics and MDT sessions providing specialist support, progressive follow up of community referrals and facilitating improved communication between acute and community services

Currently one staff member with independent prescribing, and active participation in regional prescribing network. Plan to increase community podiatry independent prescribers with six staff members to enrol on training courses.

Enrolment of two CDL podiatrists on MSc in Advanced Clinical Practice to support for advanced treatment in community i.e.: total contact casting and prescribing. Programme aims to mitigate severe ulcer referrals into acute, improve healing rate and limit complications due to protracted healing though increasing casting capacity across community sites.

Invested in vascular toe pressure kits for all localities to support assessments/monitoring of patients in diabetic and non-diabetic pathways. Podiatrists trained in advanced vascular assessments to identify early onset arterial disease as part of screening programme and monitor high risk revascularised patients who may need further surgical management.

Community podiatry links and pathways established to utilise IV antibiotics in the community through oxford health: Rapid Access Care Unit (RACU) and Emergency Multidisciplinary Units (EMU).

### Referral Hotline

Clinical hotline to the acute diabetic foot clinic at the Churchill Hospital OCDEM facilitating community to acute prompt referrals.

### Root Cause Analysis

Productive response to incidences and undertaking root cause analysis to increase learning outcomes.



## Isle of Wight:

### Podiatry collaboration with district nursing during Covid-19

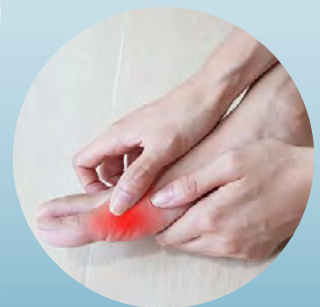
Technology is currently being used and developed by the podiatry team on the Isle of Wight as a result of the unique challenges presented by Covid-19.

The Technology Enabled Care (TEC) team manager, podiatrists and district nurse team leads use Whzan system (technology enabled tablets and computer systems). This allows virtual consultation between podiatrists, nurses and patients, enabling photographic records of wounds and ensuring podiatry staff can monitor wounds, and the district nursing team can quickly refer patients whose feet have deteriorated through for rapid triage and care.

During Covid-19, district nurses were seconded to help with end of life care. This created a gap in provision, which the Isle of Wight podiatry team was then able to fill. The team had not previously undertaken domiciliary visits, due to lack of commissioning. This enforced exposure to multi-professional learning has led to improved communication and a better understanding of each other's roles across the care system.

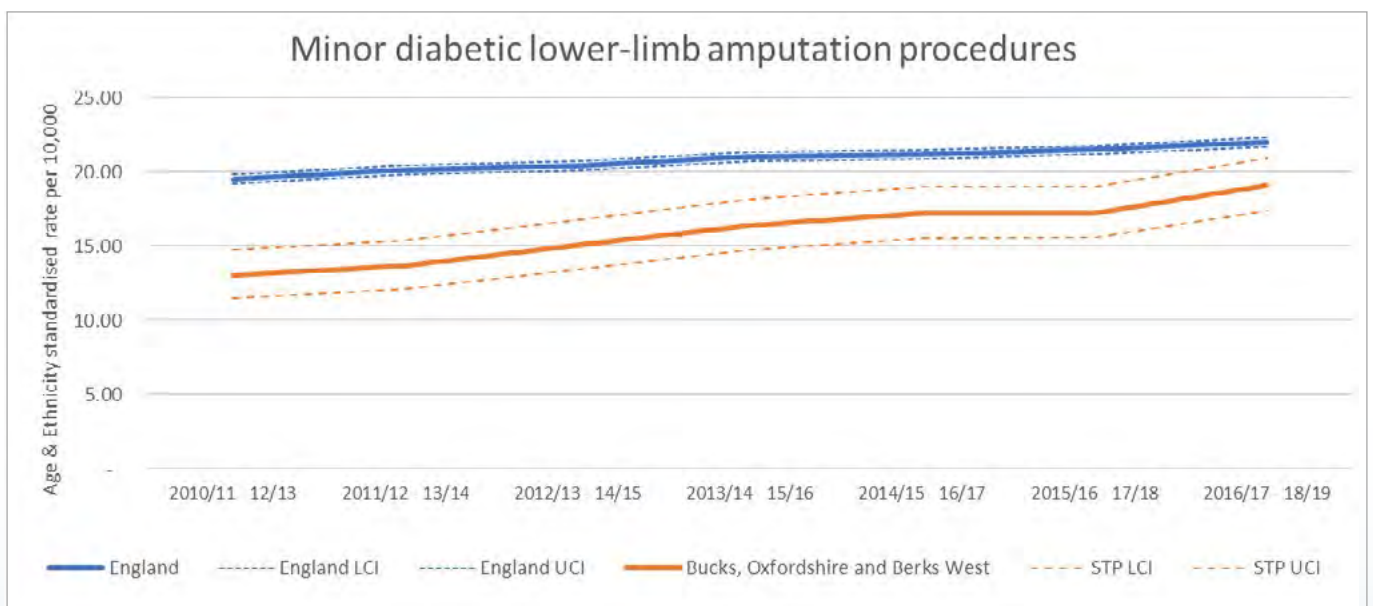
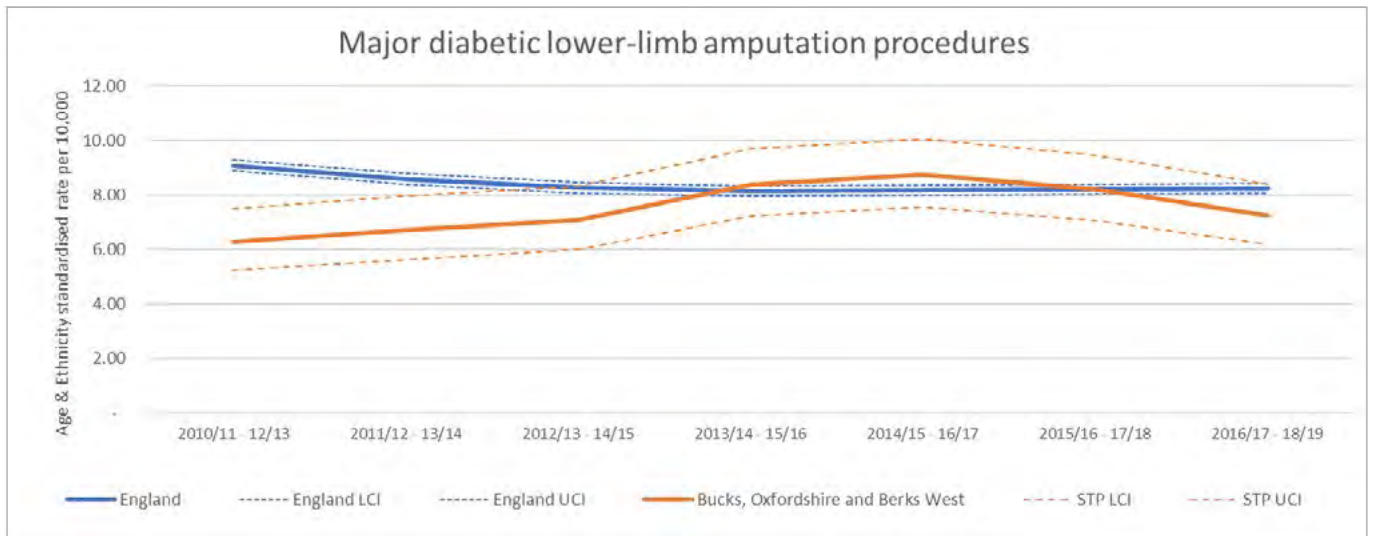
Care was delivered to patients with diabetes in a novel way where decision making was an immediate shared response to the problem presented. Patients and family had reduced travel, reduced social contact, and increased opportunity for a reduction in healing times as care was responsive to the current needs of the patient.

Moving forward, Isle of Wight NHS Trust is looking at creating a joint role to enable the knowledge and skill sets to be developed and put into practice, so that this level of collaboration and partnership working becomes the norm.

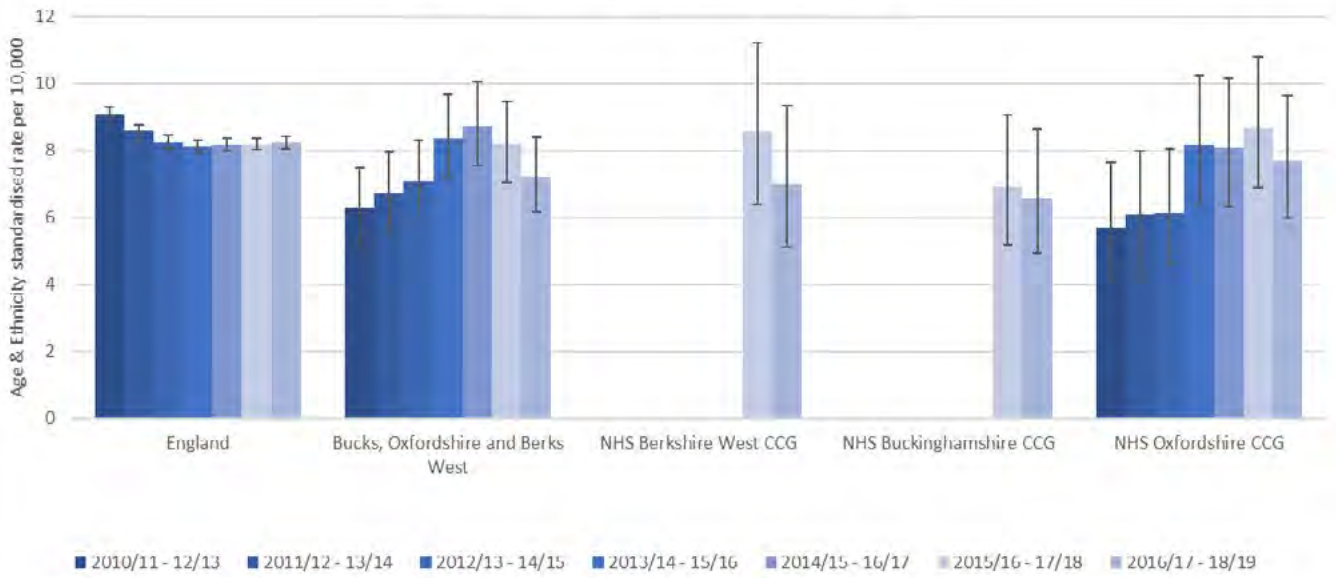


# Appendix I – Lower-limb amputation rates by STPs / ICS and CCGs

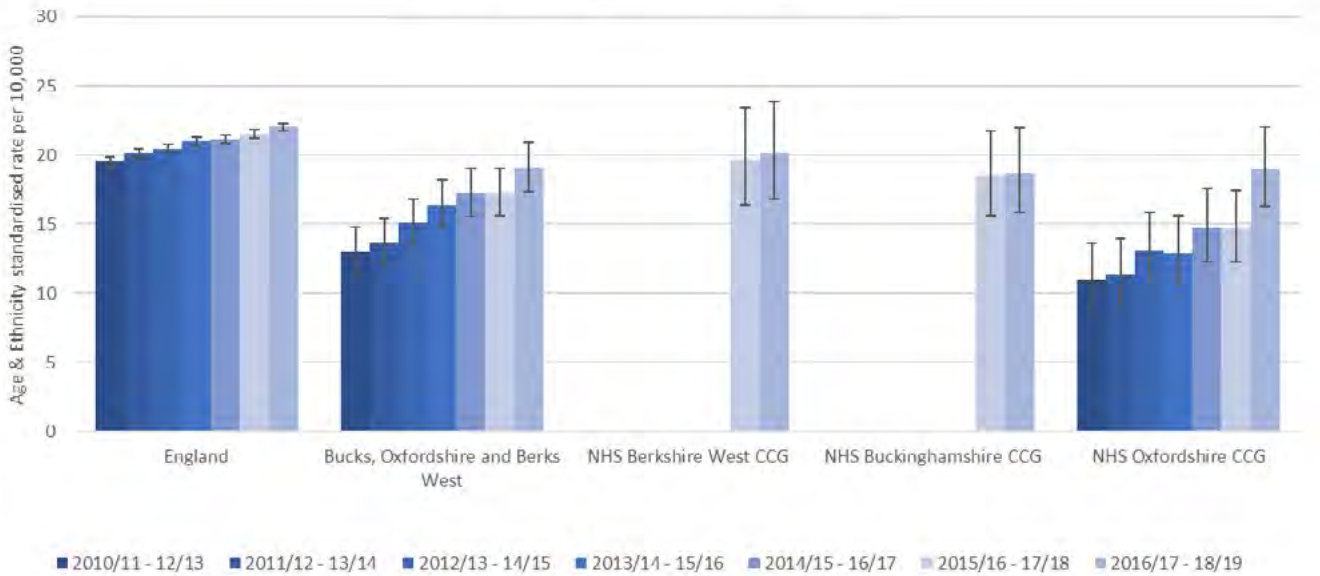
## Bucks, Oxfordshire and Berks West STP



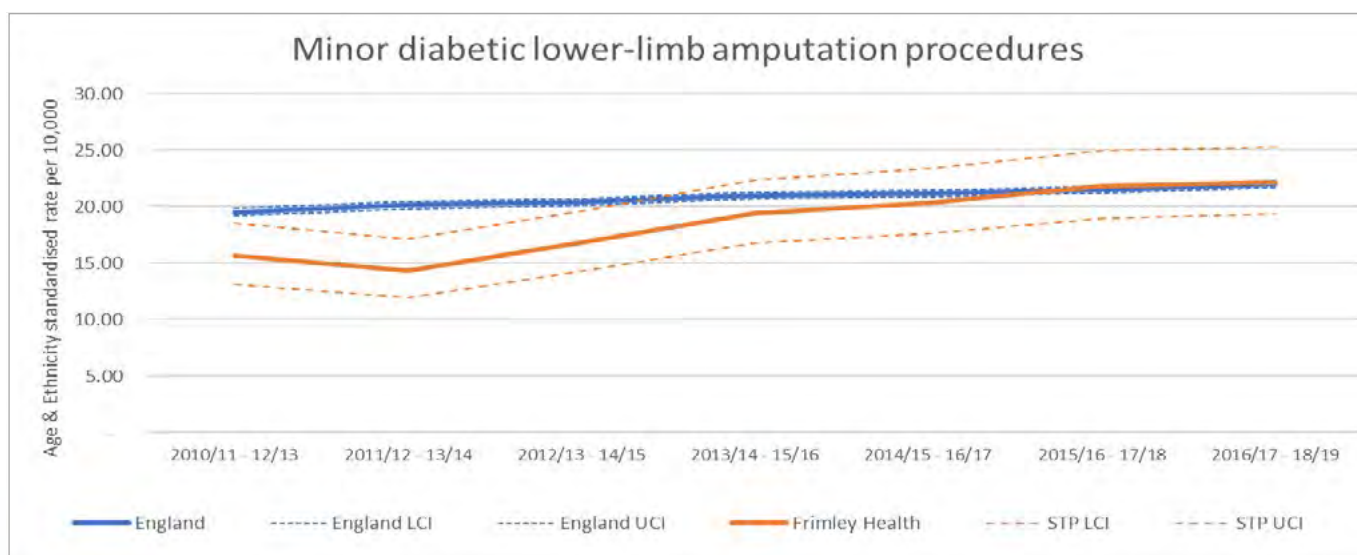
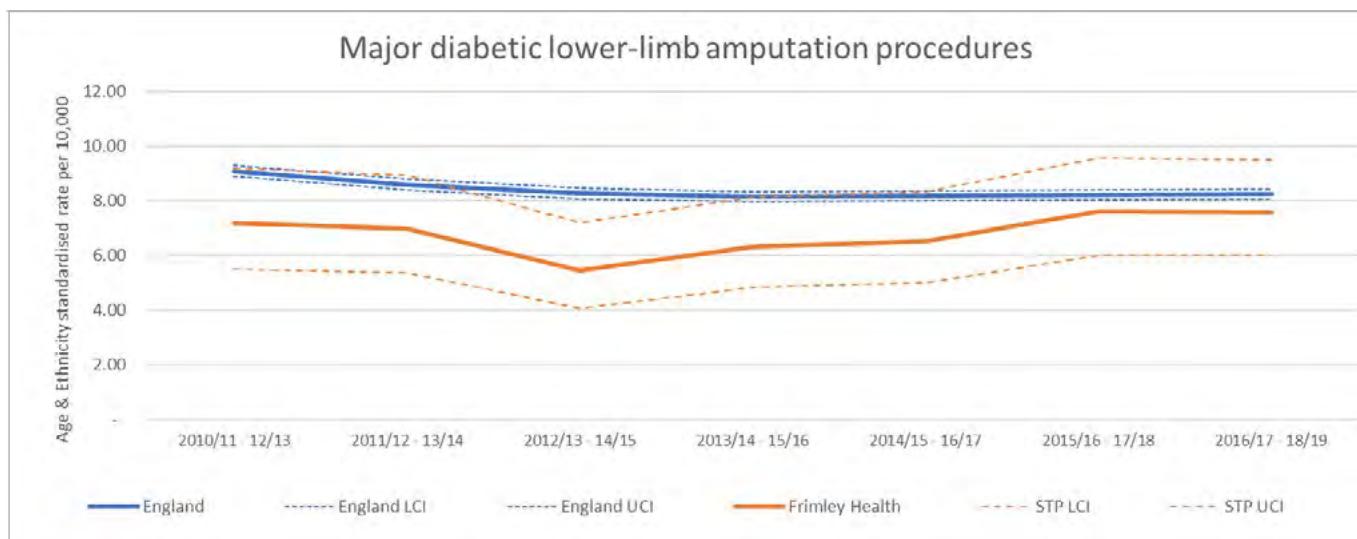
Major diabetic lower-limb amputation procedures



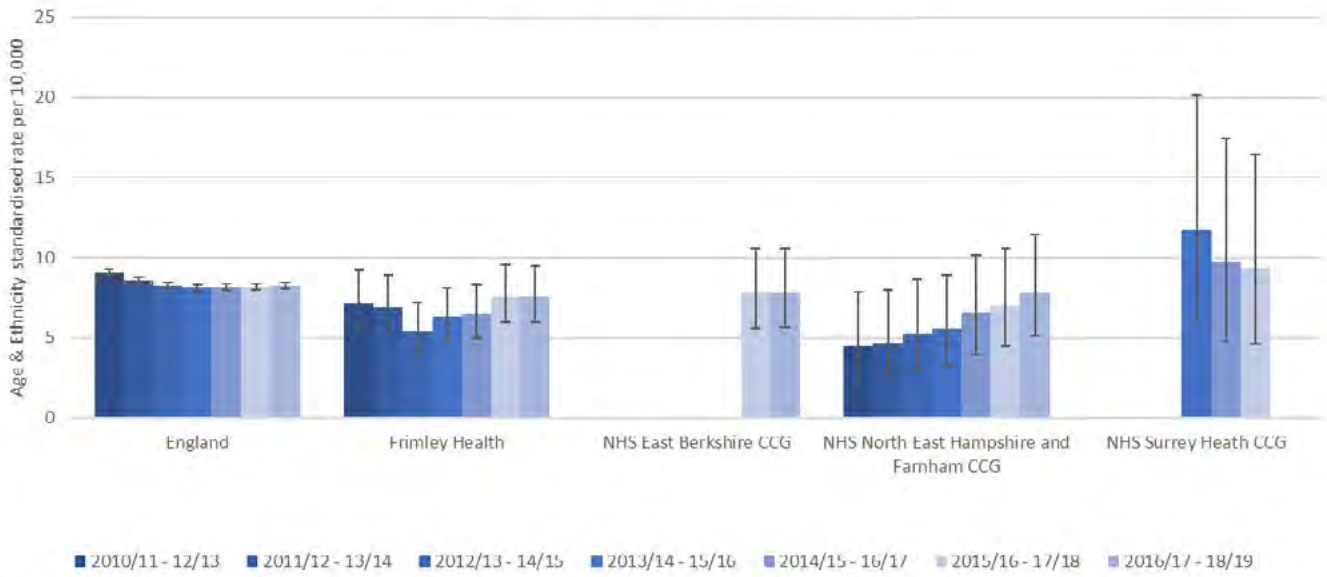
Minor diabetic lower-limb amputation procedures



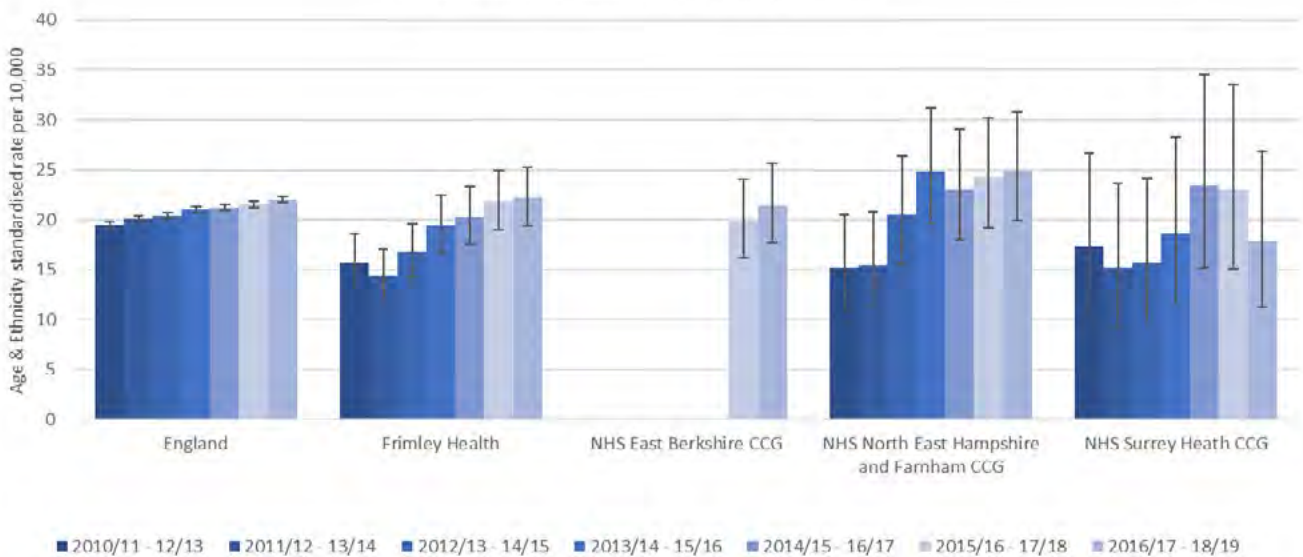
# Frimley Health ICS



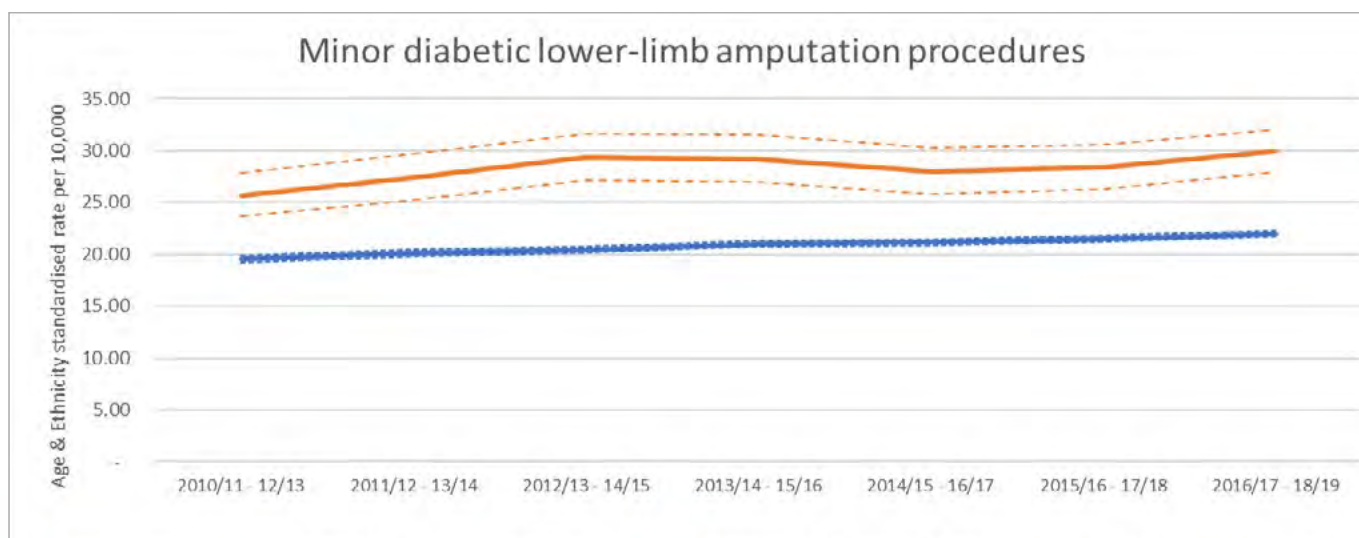
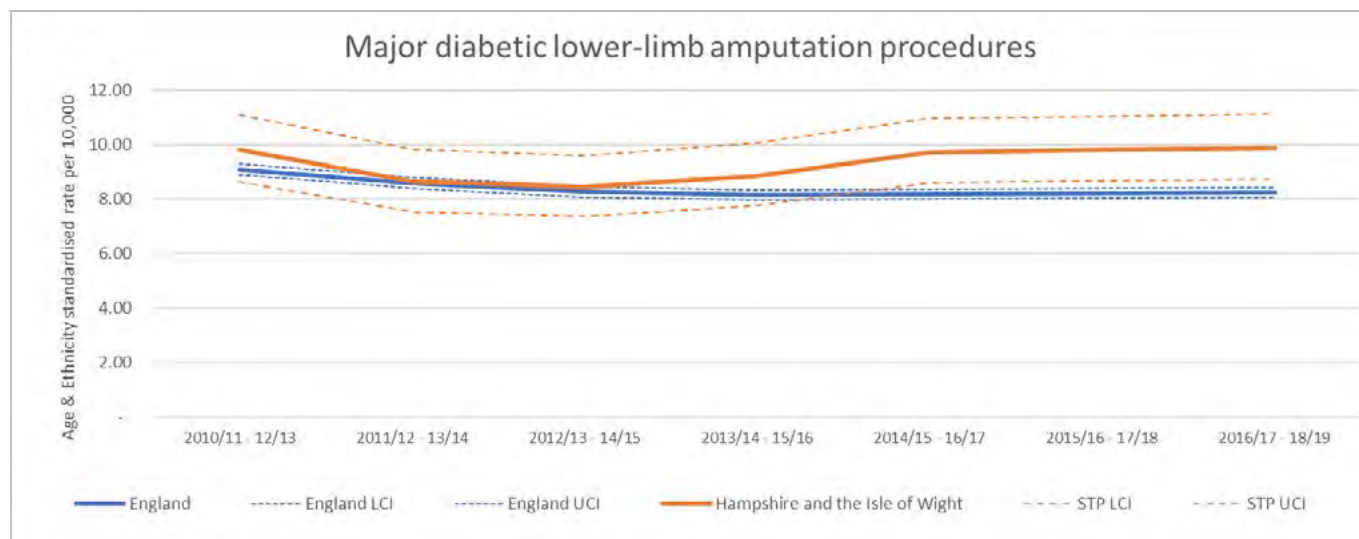
Major diabetic lower-limb amputation procedures

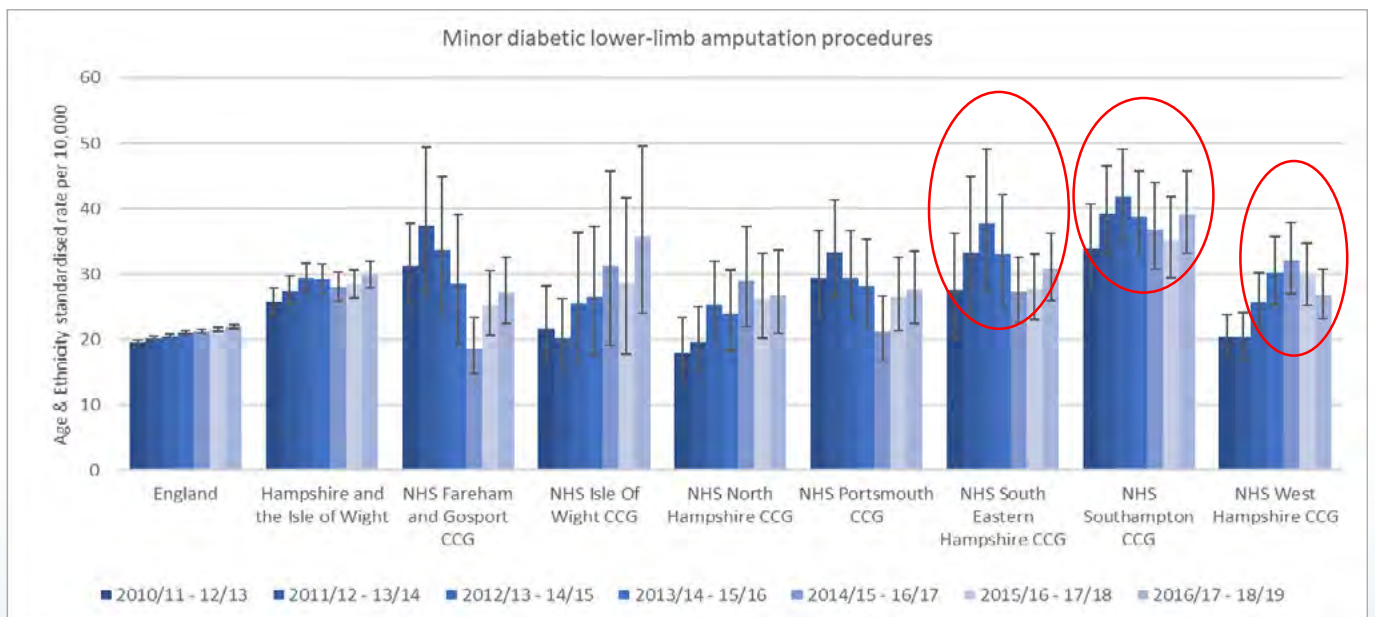
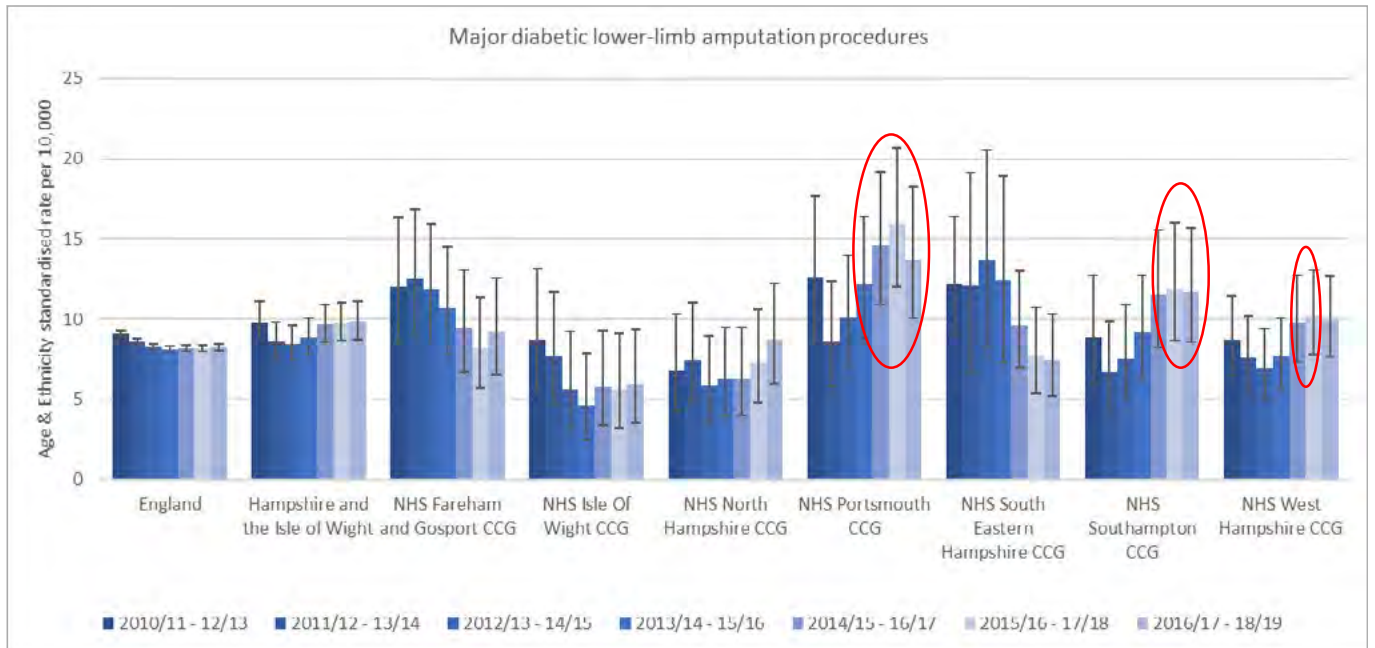


Minor diabetic lower-limb amputation procedures



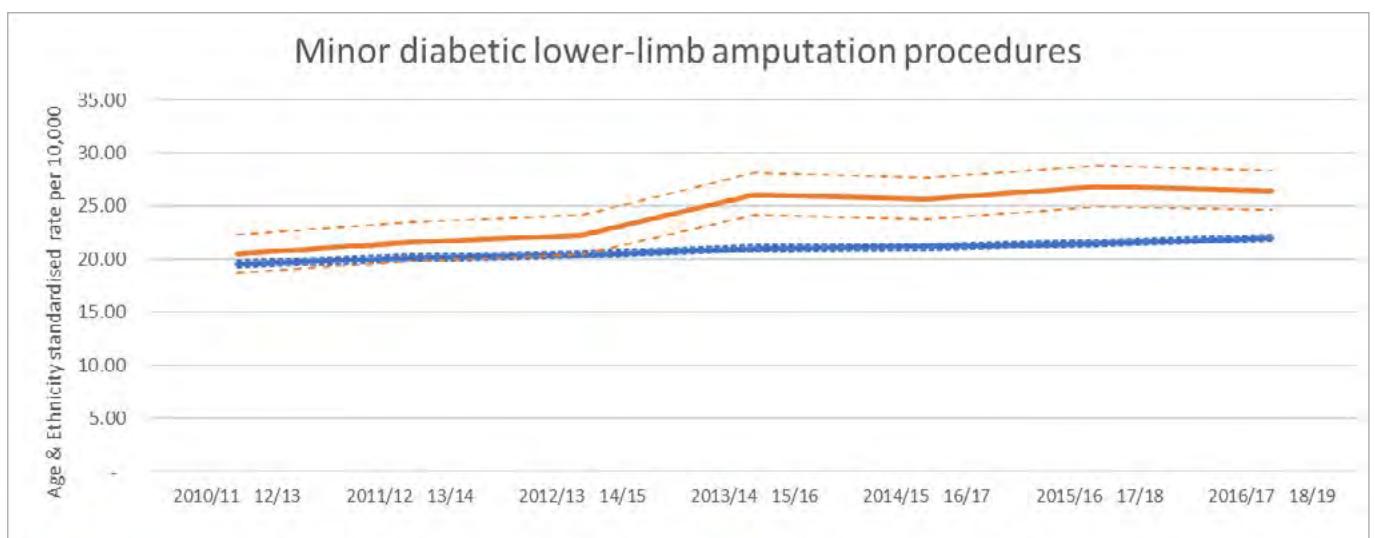
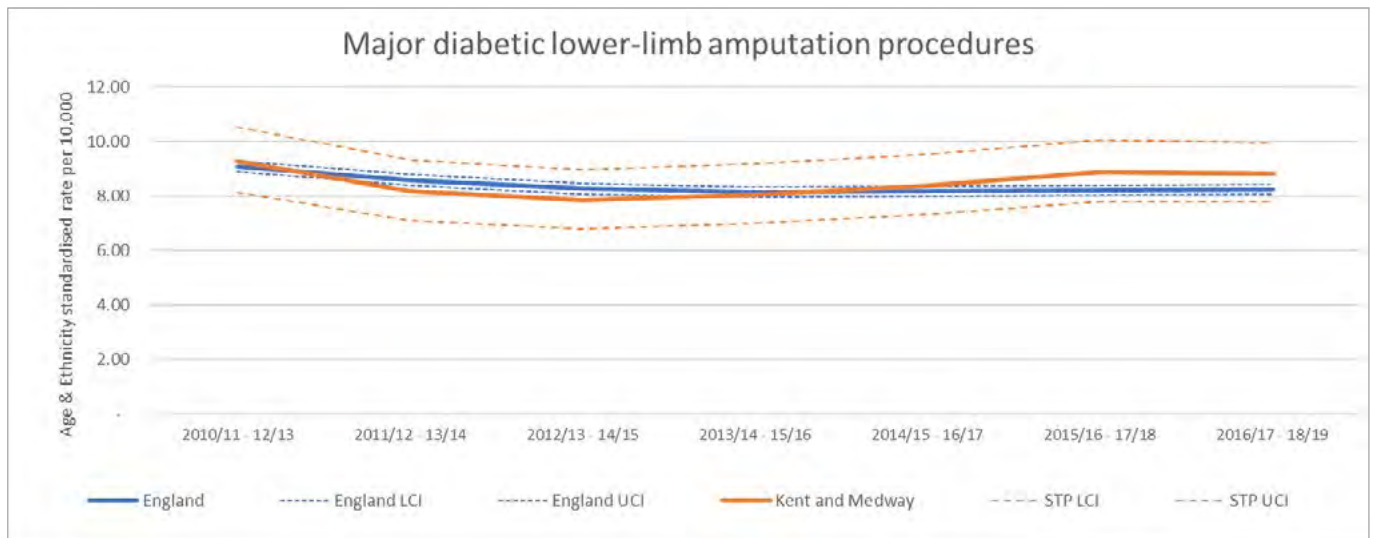
## Hampshire and the Isle of Wight STP

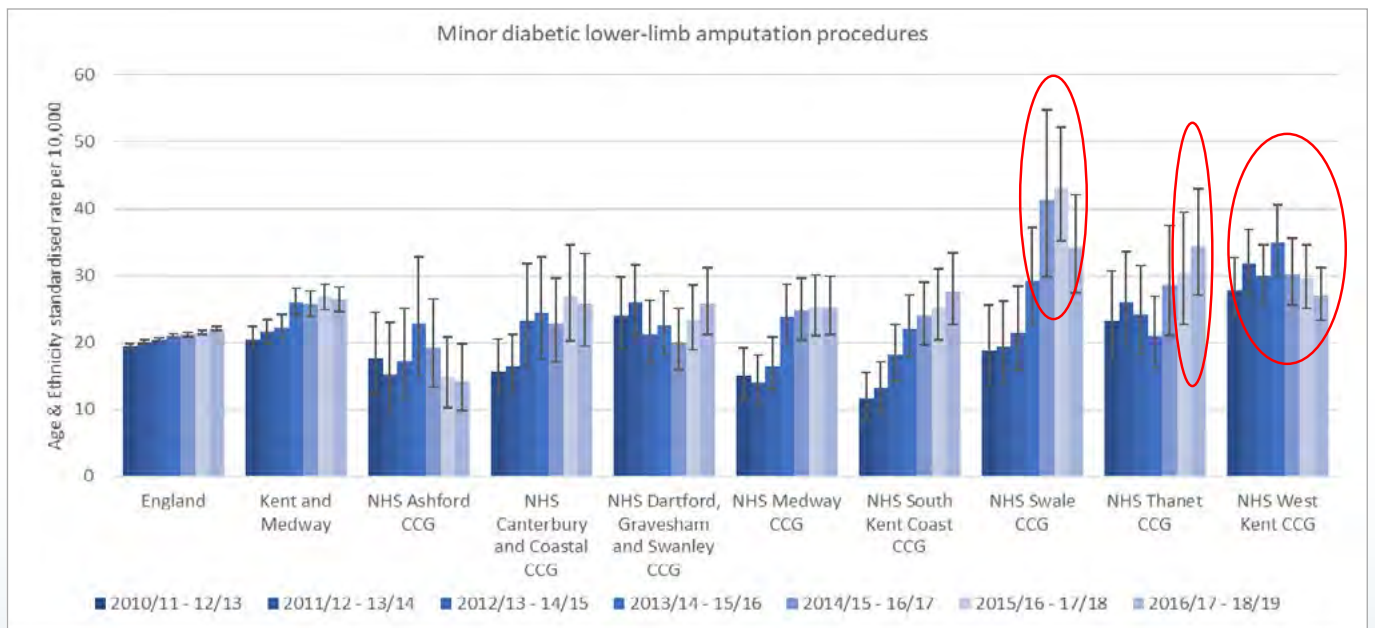
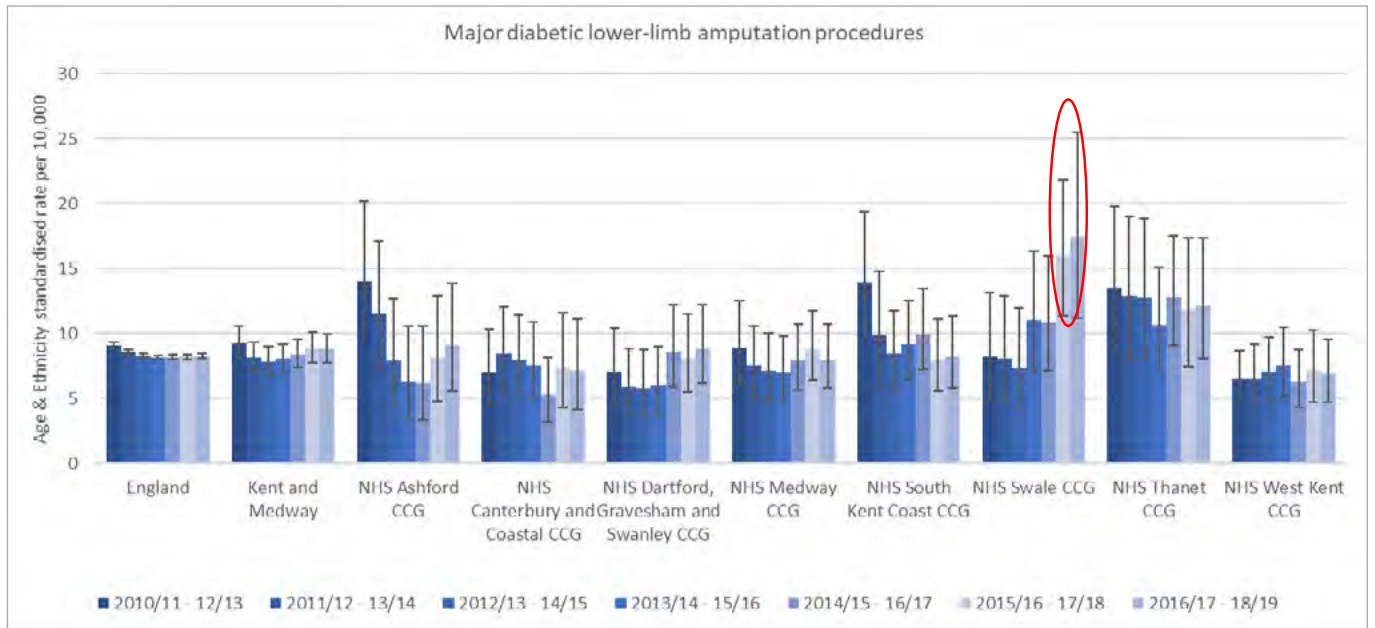




Red circle = Higher than England average

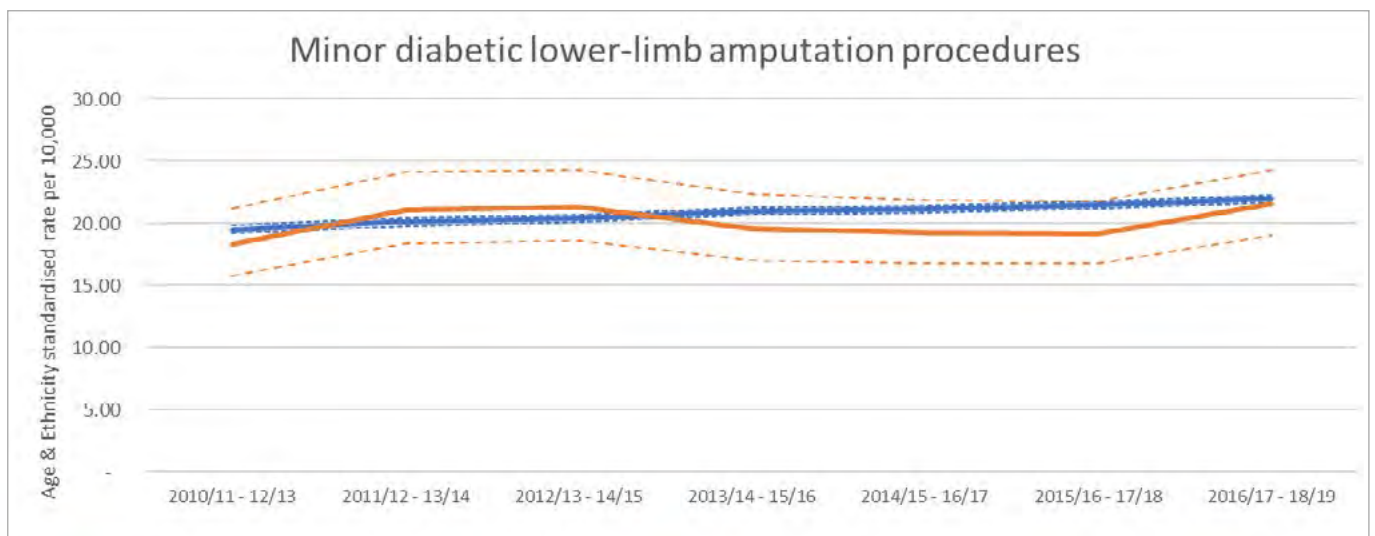
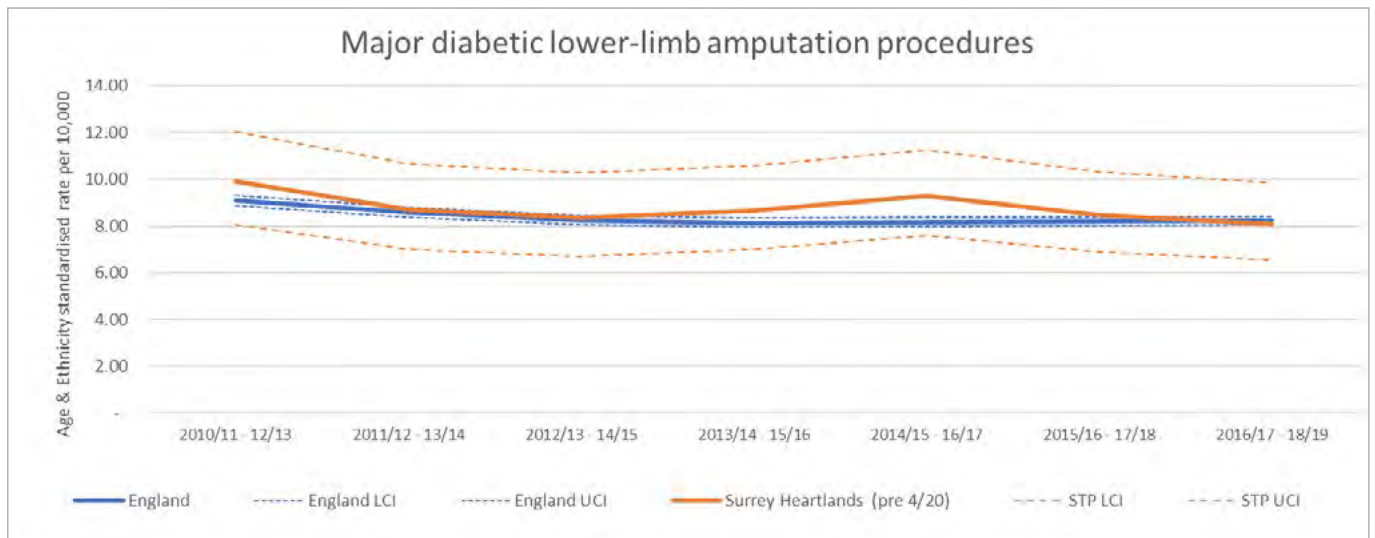
## Kent and Medway STP



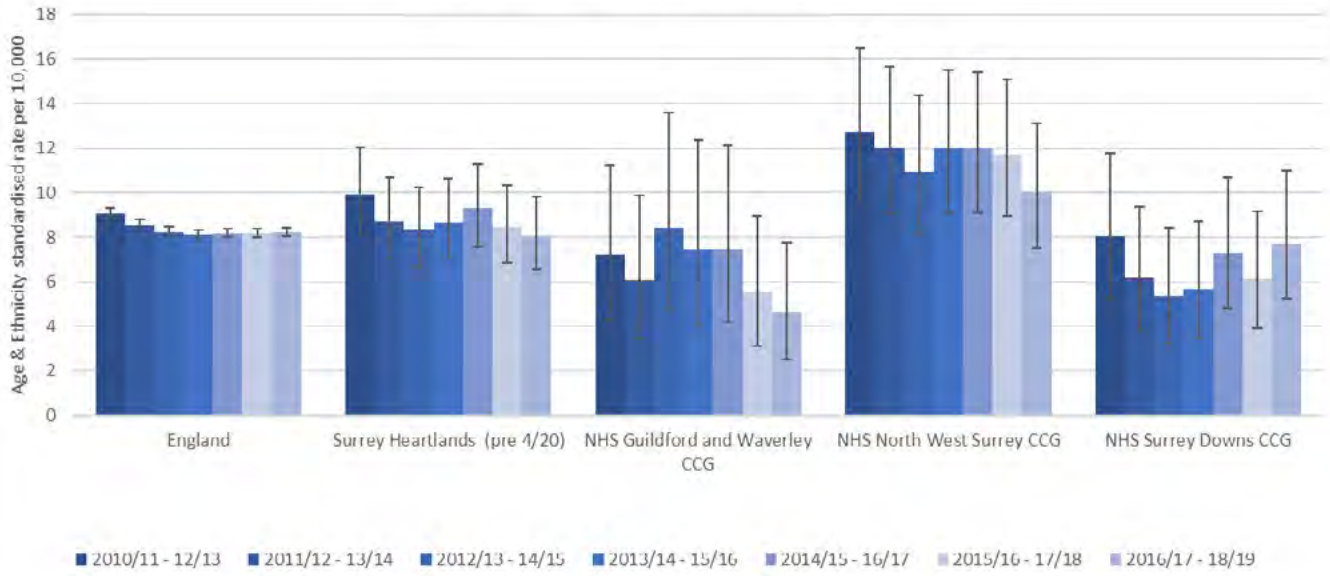


Red circle = Higher than England average

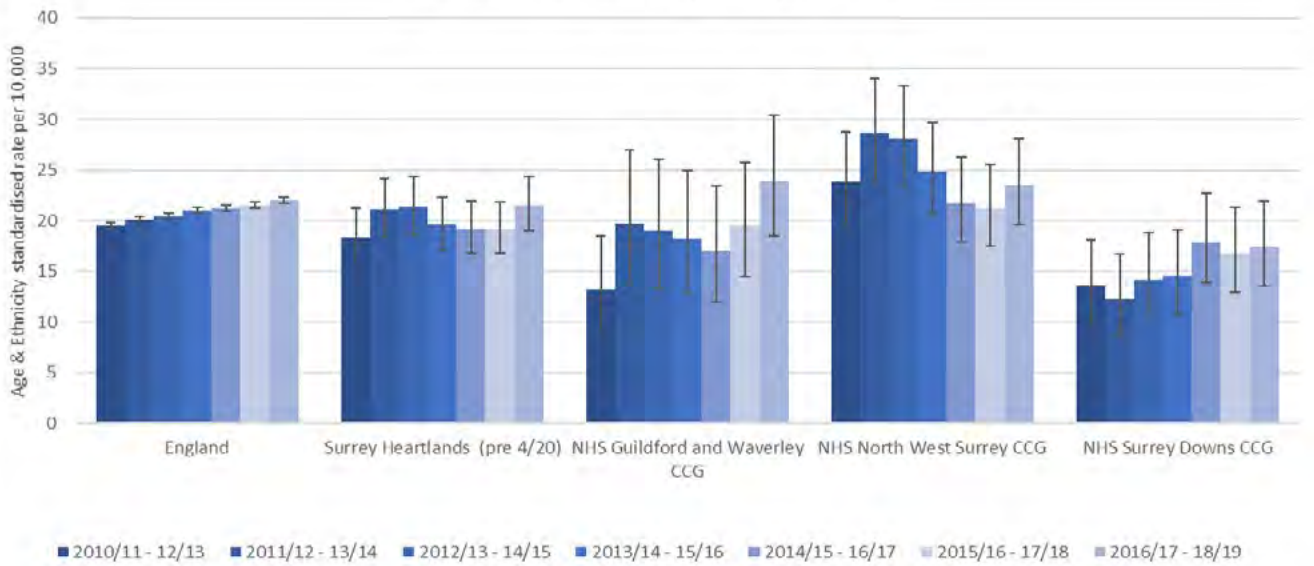
## Surrey Heartlands STP (pre 4/20)



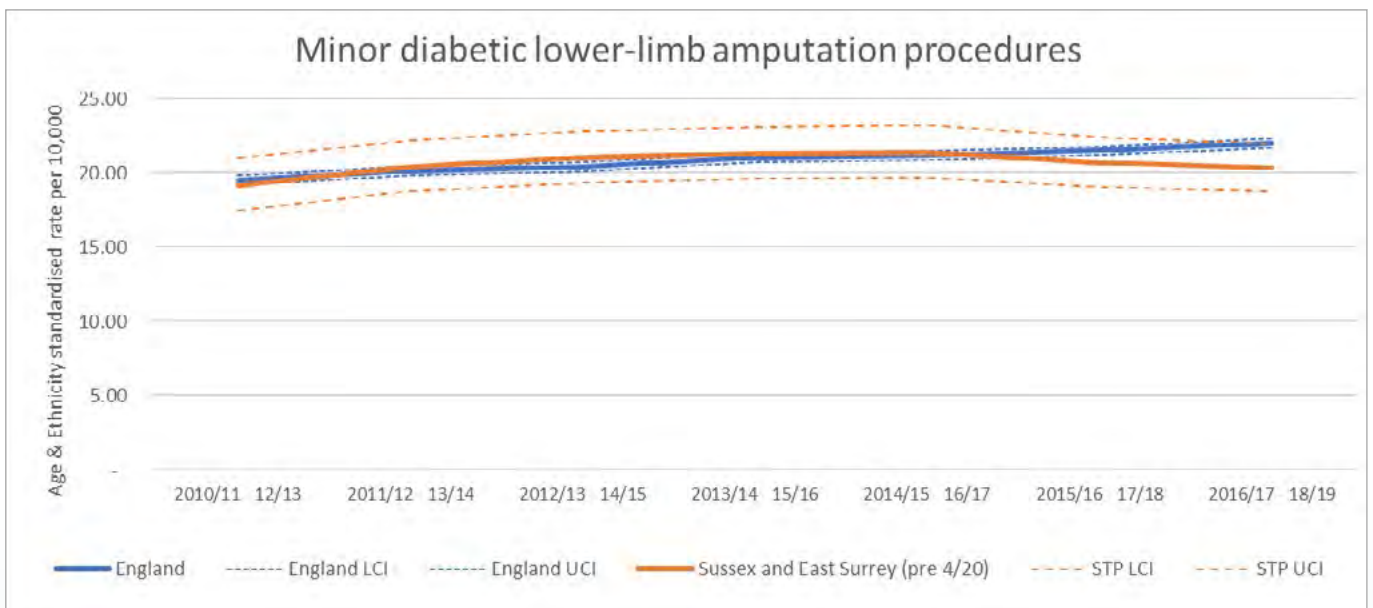
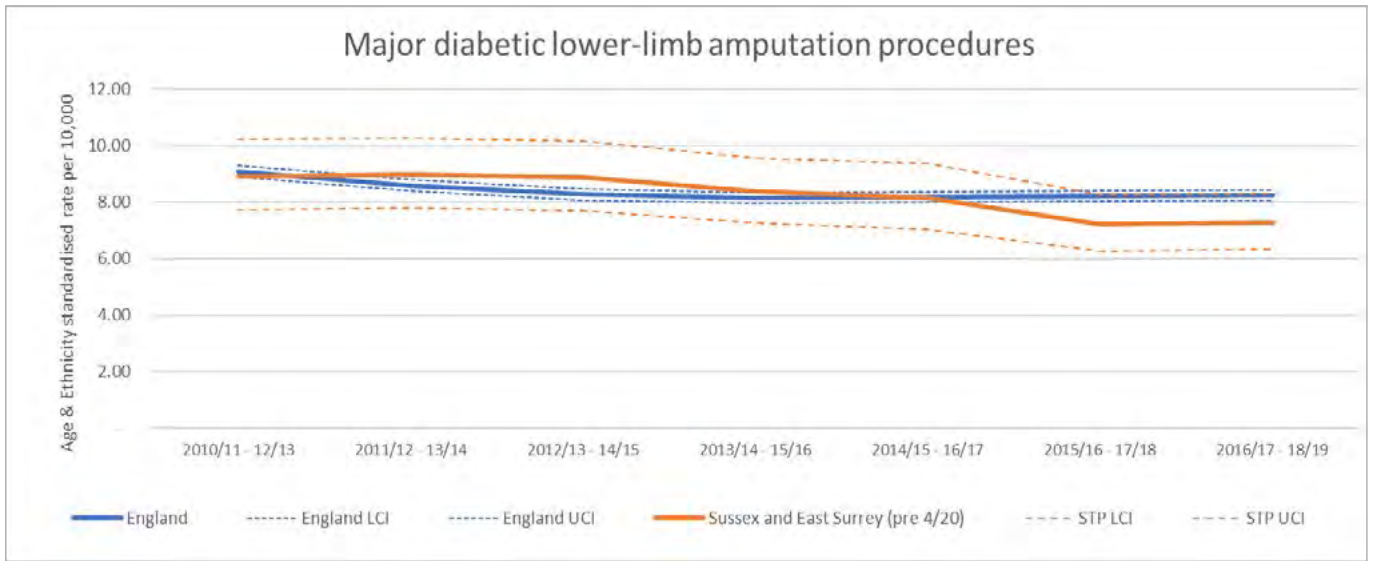
Major diabetic lower-limb amputation procedures

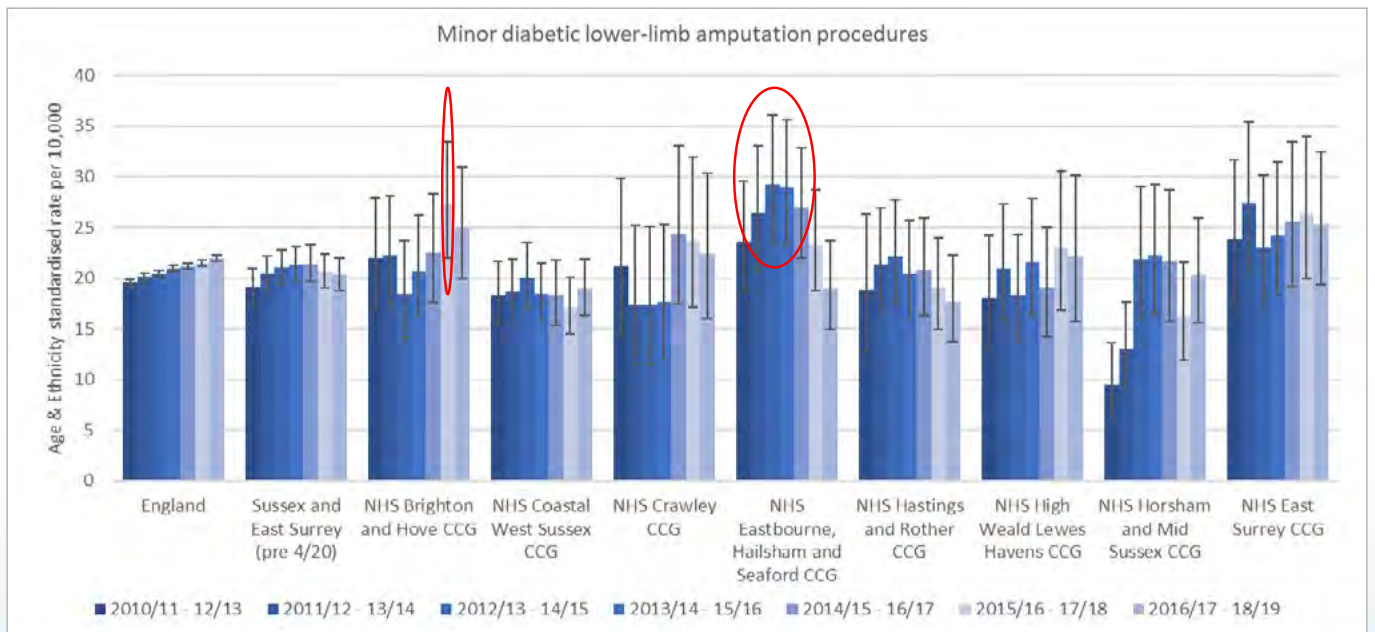
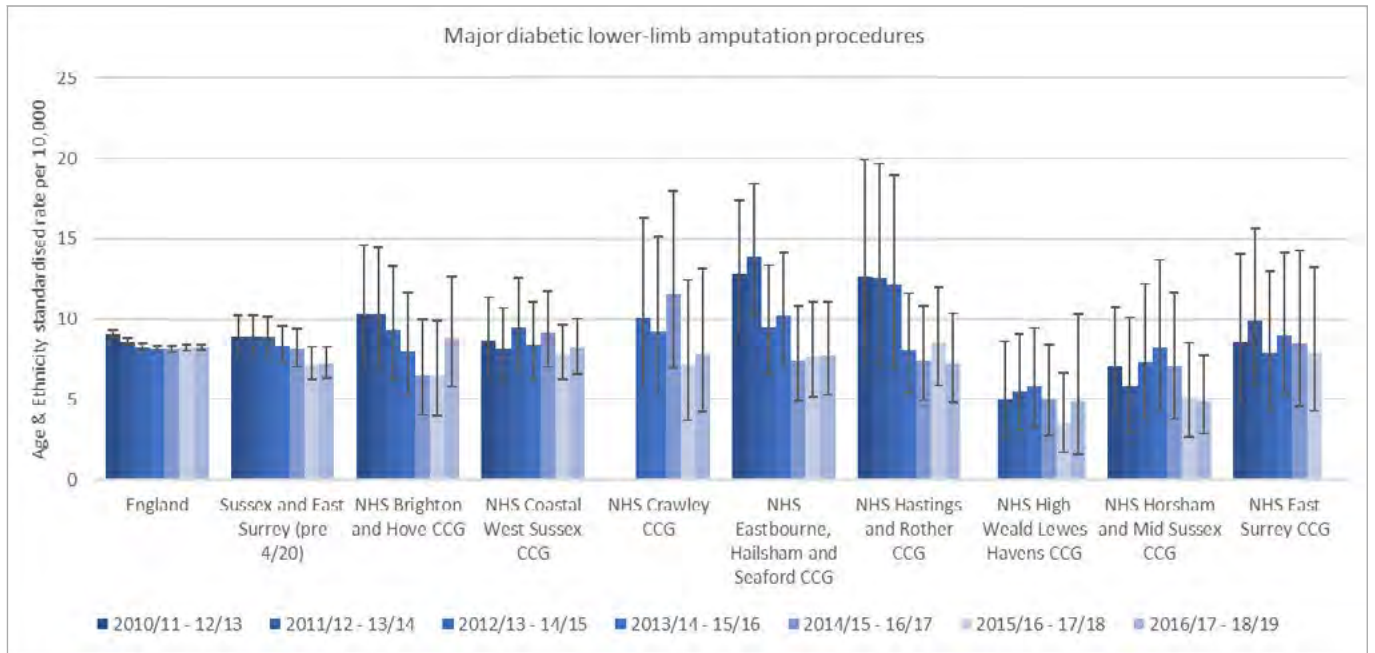


Minor diabetic lower-limb amputation procedures



## Sussex and East Surrey STP (pre 4/20)





Red circle = Higher than England average

## References:

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