



Developing combined resources for improved CKD detection and management in primary care

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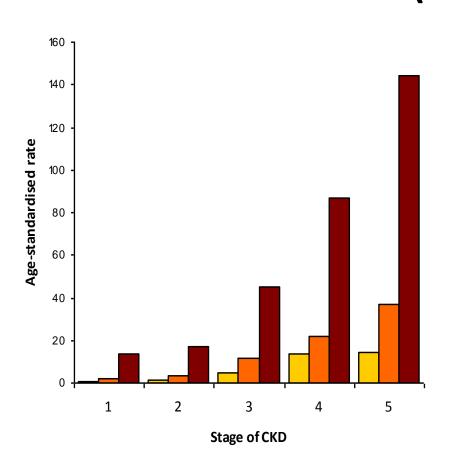




Chronic Kidney Disease (CKD)



Collaboration for Leadership in Applied Health Research and Care (CLAHRC) for Greater Manchester



□ Death □ Cardiovascular event ■ Hospitalisation

- Affects about 6% of adults in the UK
- May progress to end stage renal failure, requiring transplant or dialysis
- Greatly increases a person's risk of suffering a stroke, heart attack or death
- BUT often undiagnosed and poorly managed







LNR & GM CLAHRC CKD Projects

- LNR and GM areas identified an approximate 2-2.5% prevalence gap.
- In **LNR**, a cluster randomised controlled trial is being performed in 48 practices in Northamptonshire looking into the feasibility of a nurse led targeted prevention programme for CKD.
- In GM, two 12-month quality improvement projects led to improvement of CKD risk factors in 30 GP practices and a CKD Improvement Guide was developed. Implementation was supported with workshops, WebEx sessions, and regular site visits.







NHS National Institute for Health Research

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PSP-CKD

- Aims of the project were;
 - To determine whether reinforcement of best practice in the management of key aspects of CKD care improves clinical outcomes
 - To improve coding of CKD and prevalence on chronic disease registers
 - To increase interest in and capacity for primary care research in Northamptonshire
 - To implement and evaluate a new model of partnership working between primary and secondary care
- To achieve this a robust data extraction tool applicable to all GP computer systems was required, capable of;
 - Identifying un-coded patients
 - Assessing accuracy of existing coding
 - Risk stratification
 - Providing a practice audit
 - Referral management





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Register Validation

| 2 | Identifier | CKD confirmed by existing | eGFR data? | Suggested Classif | fication | Evidence: Latest eGFF | 3<60 | Evidence: Proteinuria |
|--|------------|--|--|--|--|---|--|--|
| 37 | eGF | R data confirms CKD3 at least | | CKD Stage 3A | | 57 on 07/02/2012 | | ACR <30mg/mmol |
| 38 | eGF | R data confirms CKD3 at least | | CKD Stage 3A | | 48 on 01/02/2012 | with | hout proteinuria on dipstic |
| 39 | | R data confirms CKD3 at least | | CKD Stage 3A | | 51 on 09/01/2012 | | hout proteinuria on dipstic |
| 90 | eGF | R data confirms CKD3 at least | | CKD Stage 3A | | 49 on 13/01/2012 | | ACR <30mg/mmol |
| 91 | eGF | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | FRs exist over 6 | 49 on 22/01/2007 | with | hout proteinuria on dipstic |
| 92 | eGF | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 52 on 22/01/2007 | | hout proteinuria on dipstic |
| 93 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 58 on 22/01/2008 | | hout proteinuria on dipstic |
| 94 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 55 on 10/11/2011 | | hout proteinuria on dipstic |
| 95 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 58 on 20/11/2007 | | ACR |
| 96 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 56 on 30/08/2007 | with | hout proteinuria on dipstic |
| 97 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 56 on 09/11/2009 | | hout proteinuria on dipstic |
| 98 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 53 on 08/01/2008 | | hout proteinuria on dipstic |
| 99 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 59 on 08/04/2011 | | ACR <30mg/mmol |
| 00 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 59 on 06/04/2011 | with | hout proteinuria on dipstic |
| 01 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 58 on 16/09/2011 | | hout proteinuria on dipstic |
| 02 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 57 on 14/08/2007 | | hout proteinuria on dipstic |
| 03 | | R data confirms CKD3 at least | ₽ | CKD Stage 3A but later eGF | | 59 on 03/03/2011 | | hout proteinuria on dipsti |
|)4 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 53 on 14/03/2007 | | hout proteinuria on dipsti |
| 05 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 58 on 02/03/2009 | VVILI | PCR <50mg/mmol |
| 16 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 57 on 22/09/2011 | | |
|)7 | | | | | | | | hout proteinuria on dipsti |
| 98 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 59 on 08/09/2011 | Witi | hout proteinuria on dipsti |
| | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 52 on 07/06/2011 | | ACR <30mg/mmol |
| 09 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 57 on 13/03/2007 | WITI | hout proteinuria on dipstic |
| 10 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 58 on 30/11/2010 | *** | ACR <30mg/mmol |
| 11 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 57 on 02/03/2011 | | hout proteinuria on dipstic |
| 12 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 55 on 01/11/2010 | witi | hout proteinuria on dipstic |
| 13 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | | 53 on 10/01/2012 | | No proteinuria data |
| 14 | | R data confirms CKD3 at least | | CKD Stage 3A but later eGF | FRs exist over 6 | 54 on 17/02/2011 | wit | hout proteinuria on dipstic |
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Ongoing management and case finding (CLAHRC) for Greater Manchester

| 1 | | | | | | | | | |
|---|------------|--------------------------------|--------------------|------------|-------------------------|------------|-----------------------|------------|-------|
| 2 | | | | | | | | | |
| 3 | 175 | 16 | 238 | 111 | 11 | 531 | | 82 | |
| 1 | Diabetic | Urinary outflow tract obstruct | Cardiovasc Disease | Smoker | Black / Asian Ethnicity | | y combined risk score | | |
| 5 | Identifier | Identifier | Identifier | Identifier | Identifier | Identifier | Score | Identifier | Code |
| | | | | | | | 7 | 9 | j22a. |
| | | | | | | | 7 | | j282. |
| | | | | | | | E | | j282 |
| | | | | | | | ϵ | | j22y. |
|) | | | | | | | ϵ | | j2bx. |
| 1 | | | | | | | e | 1 | j282 |
| 2 | | | | | | | ϵ | : | j282 |
| 3 | | | | | | | E | | j22e |
| 1 | | | | | | | 5 | | j282 |
| 5 | | | | | | | 5 | | j2c2 |
| 3 | | | | | | | 5 | | j2c2 |
| 7 | | | | | | | | | j220 |
| 3 | | | | | | | E | | j220 |
| • | | | | | | | 5 | | j2n3 |
|) | | | | | | | | | j28Y |
| | | | | | | | 5 | | j2c1 |
| 2 | | | | | | | E | i | j2c2. |
| 3 | | | | | | | E | | j2c1. |
| 1 | | | | | | | 5 | | j22e. |
| 5 | | | | | | | 5 | | j282. |
| 3 | | | | | | | 5 | | j2c2. |
| 7 | | | | | | | 4 | l I | j282. |
| 3 | | | | | | | 4 | | j2n3. |
| 9 | | | | | | | 4 | | j282. |
|) | | | | | | | 4 | | i281 |

| CKD Audit Data | | | | | | | |
|--|----------|-------------|-----------------|---------------------|----------------|---------|-----|
| Practice Code | C12345 | | All these patie | nts have either eGF | R <60 or other | | |
| Date of data extraction | 20120217 | | | renal impairment | | | |
| Total population over 17 at this date | 8968 | | | | | | |
| Registers and process measures | | | | | | | |
| | CKD1 | CKD2 | CKD3 | CKD4 | CKD5 | Uncoded | RRT |
| Number with at least 1 eGFR<60 (uncoded) or coded CKD (excluding RRT) | | 30 | 335 | 21 | 3 | 248 | 11 |
| Observed % prevalence for population over 17 | 0.0 | 0.3 | 3.7 | 0.2 | 0.0 | 2.8 | 0.1 |
| Exp % prev >17 adj by age /sex (CKD3-5 only) | | | 5.7 | 0.3 | 0.1 | _ | |
| Patients with coded CKD diagnosis | | No Diabetes | | No Proteinuria | | | |
| Number with coded CKD (any stage) | 117 | 272 | 46 | 257 | 86 | | |
| % of population over 17 with coded CKD | 1.3 | 3.0 | 0.5 | 2.9 | 1.0 | | |
| Blood Pressure | Diabetes | No Diabetes | Proteinuria | No Proteinuria | Overall | | |
| Number with BP recorded in last year | 115 | 253 | 43 | 249 | | | |
| % with BP recorded in last year * | 98.3 | 93.0 | 93.5 | 96.9 | 75.1 | | |
| Number treated to target using latest BP in last year | 35 | 165 | 13 | 162 | | | |
| % BP treated to target | 29.9 | 60.7 | 28.3 | 63.0 | 45.0 | | |
| Proteinuria and ACE/ARB usage | | | | | | | |
| Number of DM with ACR recorded ever; No DM ACR/PCR recorded ever | 114 | 200 | | | | | |
| % with proteinuria assessed ever | 97.4 | 73.5 | | | | | |
| Number of DM ACR>2.5 m, >3.5 f; No DM (ACR>70/PCR>100 OR ACR>30/PCR>50 & HBP) | 36 | 9 | | | | | |
| % prev microalbuminuria in diabetes / ACE/ARB Rxable proteinuria in non-diabetes | 30.8 | 3.3 | | | | | |
| Number on ACE/ARB in above groups | 24 | 6 | | | | | |
| % on ACE/ARB in above groups | 66.7 | 66.7 | | | | | |
| Last eGFR done within recommended time frame | CKD1 | CKD2 | CKD3 | CKD4 | CKD5 | Uncoded | |
| CKD1,2 in last 12m, Uncoded / CKD3A/B in last 6m, CKD4 last 3m, CKD5 in last 6w | | 6 | 131 | 7 | | 33 | |
| % of each CKD group with eGFR done within recommended time frame | #DIV/0! | 20.0 | 39.1 | 33.3 | 0.0 | 13.3 | |
| NSAID usage in CKD (NOT recommended!) | CKD1 | CKD2 | СКДЗ | CKD4 | CKD5 | Uncoded | |
| Number on NSAID | | 4 | 38 | 1 | 1 1 1 1. | 39 | |
| | | | | | | | |



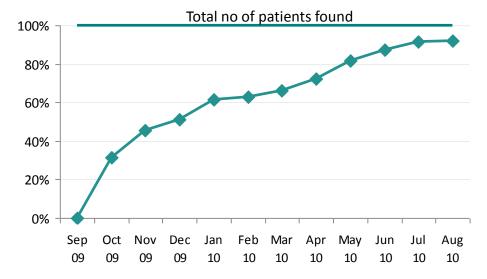
The GM CLAHRC CKD Collaborative

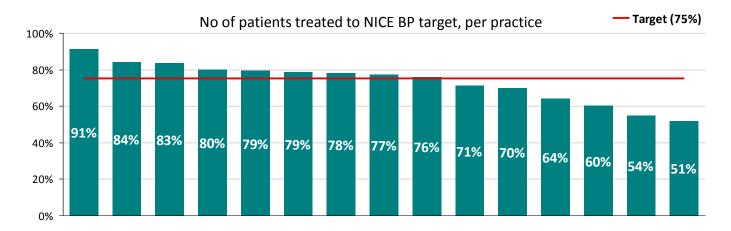


Collaboration for Leadership in Applied Health Research and Care (CLAHRC) for Greater Manchester

The GM CLAHRC CKD Collaborative was a 12 month improvement project, which had two aims:

- 1. Halve the prevalence gap
- 2. Ensure that 75% of all patients are treated to the NICE recommended blood pressure targets











THE GM PROJECT APPROACH:

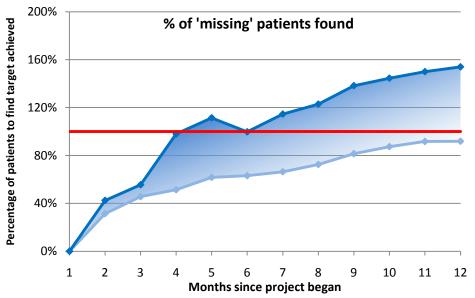
- The second GM CKD Improvement Project had two new resources to aid effectiveness and efficiency:
- LNR CLAHRC's audit tool
- GM CLAHRC's Improvement Guide;
 - Detailing the benefits to your practice
 - What steps can you take to achieve change and improvement?
 - Developing a practice protocol
 - Validating your existing register
 - Optimal management of CKD patients
 - Encouraging patients to get involved and self-manage
 - Ensuring improvements are sustained

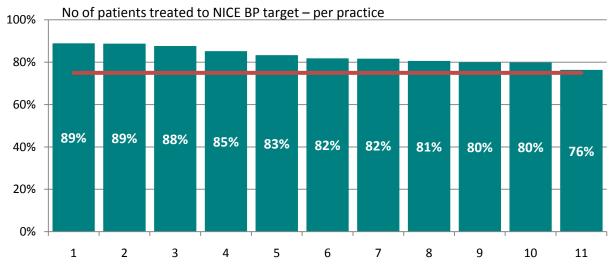






GM CKD Phase 2: Utilising new resources











Ongoing improvements.

| 1 Identifier | | Intervention | Referral |
|--------------|--|---|---|
| 2 | eGFR < 45ml/min eGFR declining - expected <15 by 80yd | Check eGFR | Consider referral as eGFR decline >5 ml/min/1.73 m2 pa |
| 3 | eGFR declining - expected <15 by 80yo | Check PCR Check eGFR Review NSAID use | Consider referral as eGFR decline >5 ml/min/1.73 m2 pa |
| 4 | Cardiovascular disease | Check BP Check eGFR | Consider referral as eGFR decline >5 ml/min/1.73 m2 pa |
| 5 | eGFR < 45ml/min eGFR declining - expected <15 by 80yo | Check eGFR Review NSAID use | Consider referral as eGFR decline >5 ml/min/1.73 m2 pa |
| 6 | eGFR declining - expected <15 by 80yo Cardiovascular d | Check PCR Check eGFR | Consider referral as eGFR decline >5 ml/min/1.73 m2 pa |
| 7 | Diabetes eGFR declining - expected <15 by 80yo Cardio | Check ACR Check eGFR | Consider referral as eGFR decline >5 ml/min/1.73 m2 pa |
| 8 | High Chol>6mmol/I Diabetes eGFR declining - expected | BP-needs better control<130/80 | Consider referral as eGFR decline >5 ml/min/1.73 m2 pa Consider |
| 9 | eGFR < 45ml/min and Hb<10.5g/dl Proteinuria presen | Check BP Consider ACE/ARB | Consider referral as high ACR |
| 10 | eGFR < 45ml/min Proteinuria present Diabetes eGFR of | BP-needs better control<130/80 | Consider referral as high ACR, unless known due to their diabetes |
| 11 | High Chol>6mmol/I Current smoker | Consider ACE/ARB Check eGFR | Consider referral as high PCR |
| 12 | Diabetes | BP-needs better control<130/80 Check eGFR | Consider referral as high PCR, unless known due to their diabetes |
| 13 | Diabetes eGFR declining - expected <15 by 80yo Cardi | BP-needs better control<130/80 | Consider referral for better BP control |
| 14 | High SBP>150mmHg High DBP>90mmHg Cardiovascula | BP-needs better control<140/90 | Consider referral for better BP control |
| 15 | High SBP>150mmHg | BP-needs better control<140/90 Check eGFR Review NSAID u | Consider referral for better BP control |
| 16 | High SBP>150mmHg Diabetes Cardiovascular disease | BP-needs better control<130/80 | Consider referral for better BP control |
| 17 | eGFR < 45ml/min High DBP>90mmHg Diabetes | BP-needs better control<130/80 | Consider referral for better BP control |
| 18 | eGFR < 45ml/min Diabetes Urinary outflow obstruction | BP-needs better control<130/80 Review NSAID use | Consider referral for better BP control |
| 19 | | BP-needs better control<140/90 Check eGFR Review NSAID u | Consider referral for better BP control |
| 20 | High SBP>150mmHg Cardiovascular disease | BP-needs better control<140/90 Check eGFR | Consider referral for better BP control |
| 21 | High SBP>150mmHg | BP-needs better control<140/90 Check eGFR | Consider referral for better BP control |
| 22 | Diabetes Cardiovascular disease Current smoker | BP-needs better control<130/80 | Consider referral for better BP control |
| 23 | eGFR < 45ml/min High SBP>150mmHg Diabetes Card | BP-needs better control<130/80 | Consider referral for better BP control |
| 24 | Diabetes Cardiovascular disease | BP-needs better control<130/80 | Consider referral for better BP control |
| 25 | Diabetes | BP-needs better control<130/80 Check ACR | Consider referral for better BP control |
| 26 | eGFR < 45ml/min High SBP>150mmHg Diabetes eGFF | BP-needs better control<130/80 Consider ACE/ARB Check eG | Consider referral for CKD 4 or 5 patients |
| 27 | eGFR < 45ml/min and Hb<10.5g/dl Diabetes eGFR d | eclining - expected <15 by 80yo Cardiovascular disease Curren | Consider referral for CKD 4 or 5 patients |
| 28 | eGFR < 45ml/min Proteinuria present Diabetes Cardio | Consider ACE/ARB Check eGFR | Consider referral for CKD 4 or 5 patients |
| 29 | eGFR < 45ml/min | | Consider referral for CKD 4 or 5 patients |
| 30 | eGFR < 45ml/min High SBP>150mmHg Cardiovascular | BP-needs better control<140/90 Check eGFR | Consider referral for CKD 4 or 5 patients |
| 31 | eGFR < 45ml/min Cardiovascular disease | | Consider referral for CKD 4 or 5 patients |
| 32 | eGFR < 45ml/min High Chol>6mmol/l eGFR declining - e | Check eGFR | Consider referral for CKD 4 or 5 patients |
| 33 | eGFR < 45ml/min Diabetes Cardiovascular disease | BP-needs better control<130/80 Check eGFR Review NSAID u | Consider referral for CKD 4 or 5 patients |









NHS National Institute for Health Research



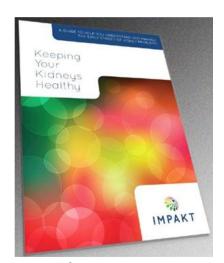
www.impakt.org.uk

IMPAKT A targeted data extraction, audit and evidence based improvement toolkit



IMproving Patient care and Awareness of Kidney disease progression Together



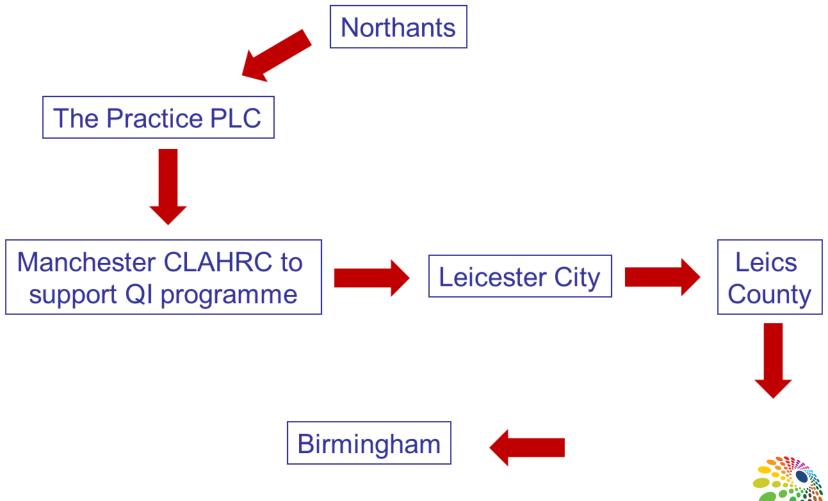








IMPAKT Dissemination



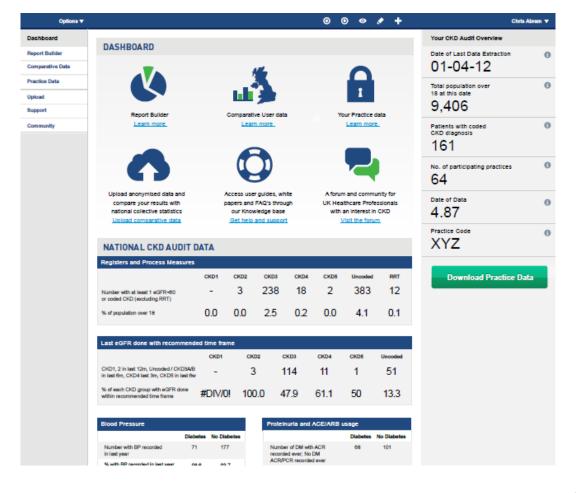




Draft screenshot of IMPAKT tool



Collaboration for Leadership in Applied Health Research and Care (CLAHRC) for Greater Manchester









Further Information

www.impakt.org.uk

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