Bowel Screening
Health Equity Audit
by GP Practice
April 2007 - 2009

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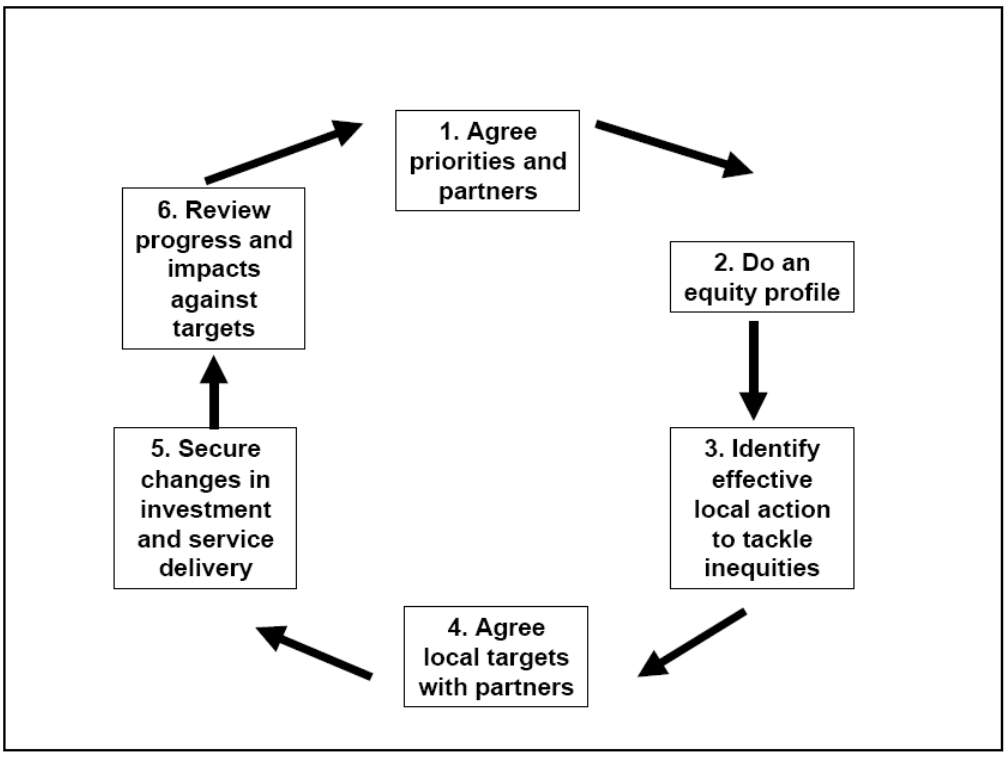
1. What is health equity audit?

Health equity audit is a process by which partners systematically review inequities in the causes of ill health, and access to effective services and their outcomes, for a defined population and ensure that further action is agreed and incorporated into policy, plans and practice. Finally, actions taken are reviewed to assess whether inequities have been reduced (Jacobson, 2002).

1.1 What's the process of doing an equity audit?

There are six main stages in a health equity audit, which are illustrated below (Figure 1).

Figure 1: The cycle of health equity audit



2. Rationale

This report mainly covers the second and third steps in the equity audit process;

- Do an equity profile and;
- Identify effective local action to tackle inequities.

The findings of the audit will be submitted to the Cancer Network Meeting where recommendations and future targets will be discussed, highlighted and agreed.

3. Introduction

3.1 Bowel Cancer

3.1.2 National Picture

Bowel cancer is a major public health problem and is the third most common cancer in the UK (Cancer Research UK, 2010). In 2006 there were 31,500 people diagnosed with bowel cancer in England which is a slight increase to the previous year (0.37%) with 31,383 cases diagnosed in 2005. It is the second most common cancer in women after breast cancer with approximately 14,000 cases diagnosed in 2006 and the third most common cancer in men after lung and prostate cancer with 17,174 cases diagnosed (NCHODa 2010). The number of deaths from the disease is increasing overall with 13,633 deaths registered in 2008 compared to 13,346 in 2007, a difference of over 2%. (NCHODb 2010)

3.1.3 Local Picture

Bowel cancer incidence in Wirral is improving with 182 cases diagnosed in 2006. This is a large reduction (20%) from the previous year (228 new cases diagnosed in 2005). However, mortality from bowel cancer in Wirral is not improving. During the previous 3 pooled years (2006-08) bowel cancer had a Standardised Mortality Ratio (SMR) of 108. This is 8% more deaths than the England average. Statistical modelling suggests this will result in 16 ‘excess deaths’ across Wirral (NCHODb 2010; NHS Wirral 2010).

4. Bowel Cancer Screening

Bowel cancer screening is a method of detecting bowel cancer at a very early stage. Research has shown that screening men and women aged 45-74 years for bowel cancer using the fecal occult blood (FOB) test could reduce the mortality rate from bowel cancer by 16% in those that are screened (Hewitson et al., 2007). The National Bowel Cancer Screening Programme was introduced in April 2006 with NHS Wirral participating from April 2007 onwards. The initial programme began by inviting men and women aged 60-69 years every two years. The Cancer Reform Strategy published in December 2008 announced that the age range for bowel cancer screening would be extended up to 75 years from 2010. **(For a detailed flowchart of the screening process see appendix 1)**

The target uptake for bowel screening is 60%. During the previous two years (2007/08 and 2008/09) Wirral has achieved an uptake score of 57% and 53% respectively.

This health equity audit allows us to examine rates of coverage of bowel screening in different groups which is important since low rates of bowel screening coverage in certain groups (inequity of uptake) can lead to health inequalities.

This report aims to explore the relationship between bowel screening uptake (%) with GP Practice, sex and age-group and deprivation.

5. Method

Using anonymised data provided by the Bowel Cancer Screening Programme (BCSP) all men and women who were invited to participate during **Round 1** were eligible for inclusion in this study. All duplicates were removed as participants can be invited more than once in any round. The primary outcome for investigation was whether a FOB test kit was returned to the BCSP Hub using the four variables of age, sex, deprivation and GP practice, as a measure to assess the extent participants returned their completed kit.

5.1 Data Source

The screening data included; practice code, 'invite sent date', 'first returned', 'sex', 'age' and 'taken up' which stated whether the participant was successfully screened.

5.2 Age

The age of the participants were categorised into 5-year age bands ranging from 60-64 to 70+ years, grouped accordingly. **N.B. those aged 70 years and over were eligible to be included in the screening round as at the time of invitation they were under 70 years of age.**

5.3 Sex

Sex was coded as 1 or 2 and appropriately coded as male or female for presentation.

5.4 GP Practice Code

A generic six digit practice code was provided with each participant record in order to match with the GP practice the participant was registered with at the time of invitation. Using data from the 'Open Exeter' database each participant was matched using this unique code and the full address and Locality Health Directorate of the GP practice was ascertained to carry out the analysis.

5.5 Limitations

Due to patient confidentiality issues at a national level no postcode data was included in this dataset thus the analysis is based on GP practice.

6. Results

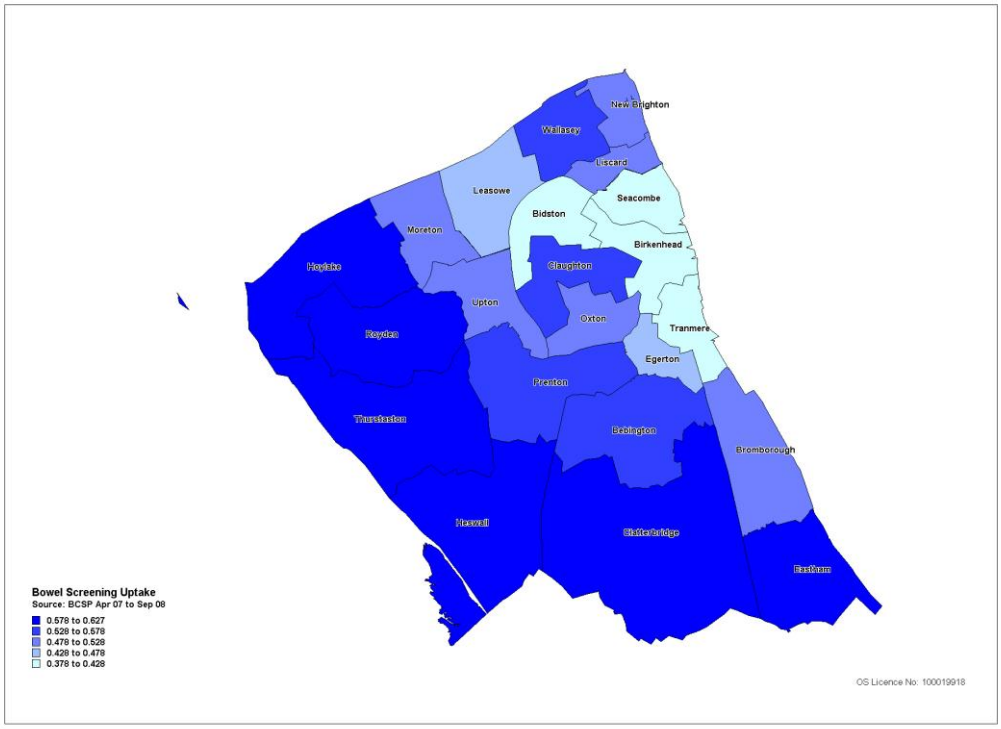
Approximately 44,277 participants in the Wirral population were invited to participate in a FOB test during screening during round 1 (16/04/2007 – 15/04/2009). 23,916 participants accepted the offer and returned their FOB kit while 20,361 participants did not accept the offer to participate in the screening process. Around 639 participants were excluded from the analysis because GP practice code was not recorded in the dataset. The overall bowel screening uptake for Round 1 for Wirral was 54%.

6.1 Variation by Ward

The map 1 below illustrates bowel screening uptake by ward from April 2007 – September 2008. This appears to vary significantly across Wirral. For example, in Thurstaston, Clatterbridge and Heswall uptake ranged from 61 - 63% (above the target uptake) compared with Birkenhead, Tranmere and Bidston where uptake ranged from 38-39% (below the target uptake) - a difference of 25% .

(N.B. this map is based on the first year of Round 1 Wirral bowel screening programme. Initial analysis has shown that uptake by GP practice is comparable with the subsequent dataset provided by the BCSP therefore the map below is a true reflection of uptake at ward level for the time period noted).

Map 1: Bowel Screening Uptake (%) by Ward Apr 2007 - Sep 2008

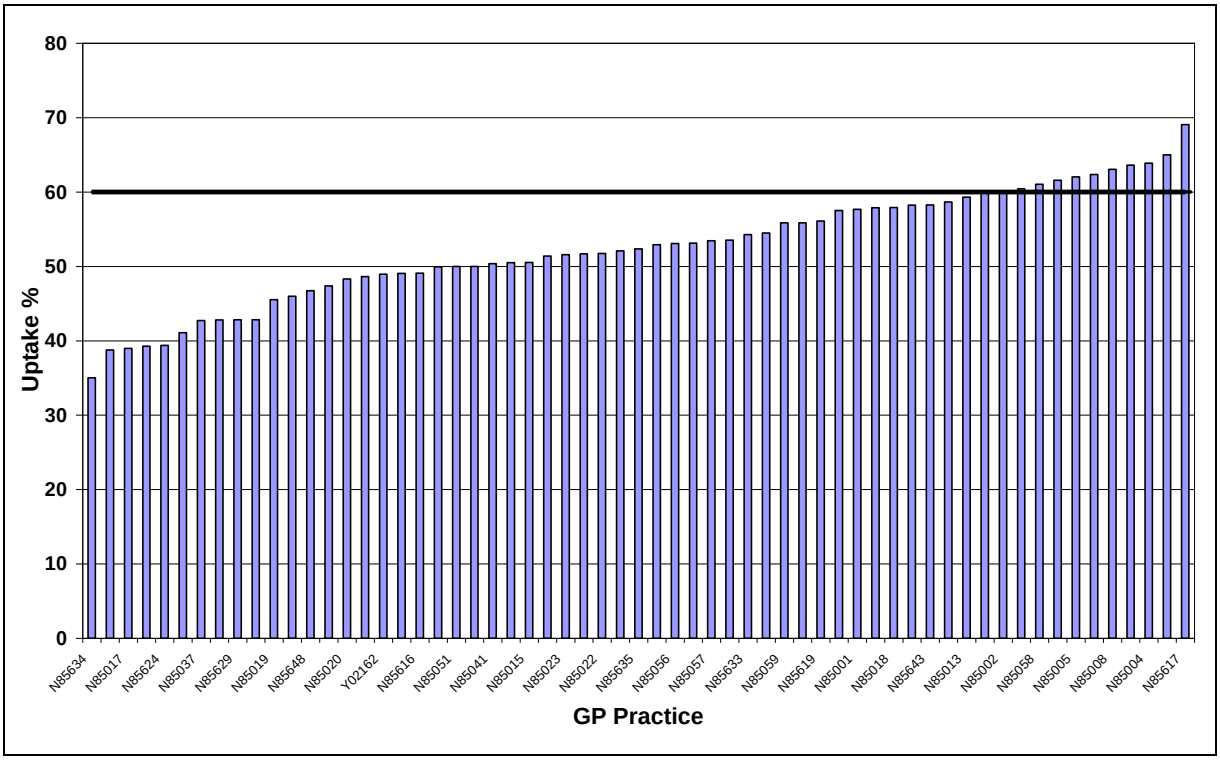


6.2 Variation in Uptake by Practice, LHD, Age, Sex & Deprivation

6.2.1 Variation by Practice

Bowel screening uptake by GP practice varied significantly across Wirral with uptake ranging from 35% (N85038) to 69% (N85617) Figure 1. Uptake also varied by sex for each practice ***for a detailed breakdown by sex and GP practice see appendix 2 and 3.***

Figure 1: Bowel Screening Uptake by Practice 2007 - 2009



6.2.2 Variation by Locality Health Directorate

Uptake varied across each of the Locality Health Directorates for both males and females. Bebington locality had the highest level of uptake with a 59% for males and a 65% uptake for females, Birkenhead locality had the lowest uptake with 48% for males and 52% for females (Table 1).

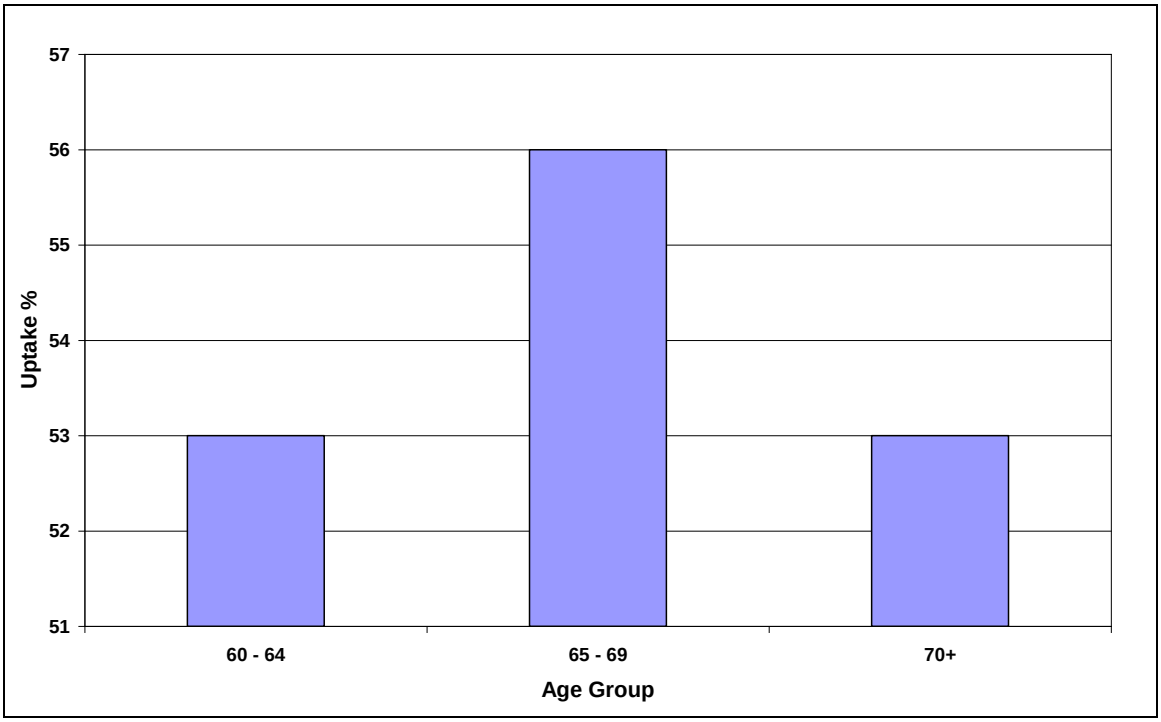
Table 1: Bowel Screening Uptake by LHD 2007 – 2009

Gender	LHD	No of Invitations	Number of Returned Kits	Uptake
Male	Bebington	7786	4562	**59%**
	Birkenhead	9262	4478	**48%**
	Wallasey	4215	2067	**49%**
Female	Bebington	8615	5565	**65%**
	Birkenhead	9499	4915	**52%**
	Wallasey	4255	2260	**53%**

6.2.3 Variation by Age

Uptake varied by age group. Those aged between 65 - 69 years had the highest uptake with 56%. Participants aged 60 - 64 years and 70+had the same level of uptake with 53% Figure 2.

Figure 2 Bowel Screening Uptake by Age-Group 2007 - 2009



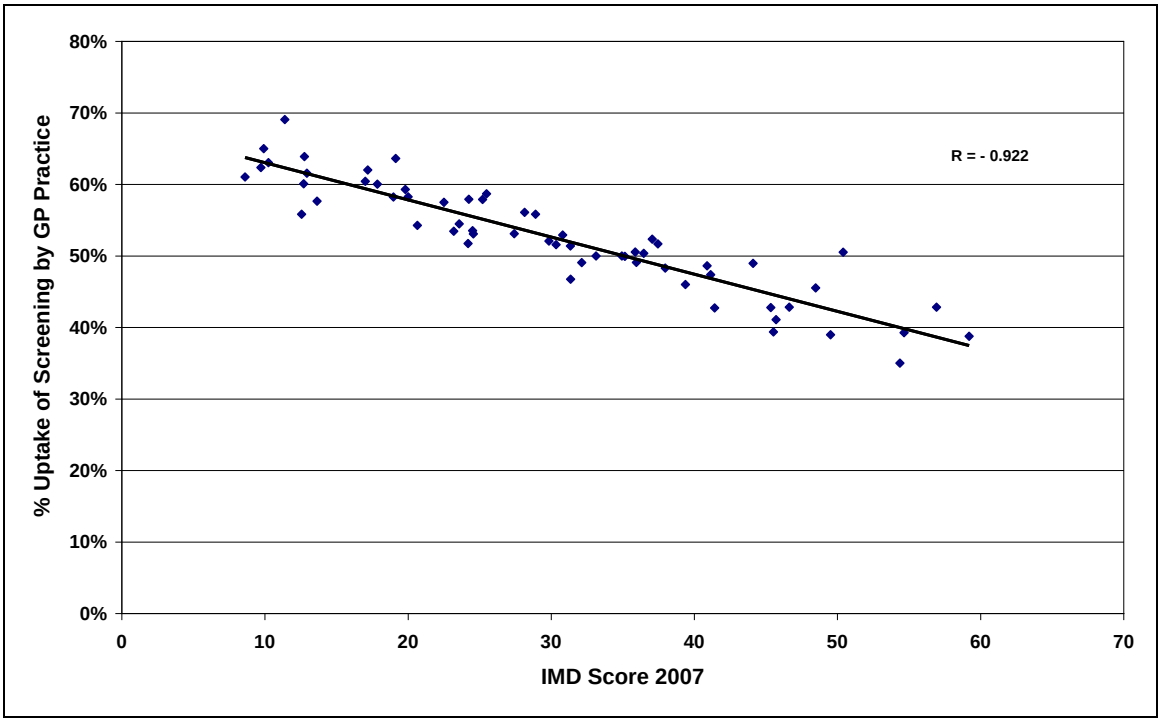
6.2.4 Variation by Sex

Uptake among female participants appeared to be considerably higher (57%) when compared to male participants (51%). This could be due to females being more compliant when asked to carry out screening as suggested by Hart et al., (1998).

6.2.5 Variation by Deprivation

Figure 3 shows the strong negative relationship between screening uptake and deprivation (r = - 0.92). GPs in the most deprived areas have the lowest bowel screening uptake compared with GPs in the least deprived populations having the highest bowel screening uptake. This is often referred to as the 'inverse care law' as those people from lower socioeconomic groups tend to use health services less in relation to need.

Figure 3: Deprivation vs % Uptake by GP practice, 2007 – 2009



7. Conclusion

The preliminary results based on the pre 2008 analysis show that bowel screening uptake overall is most significantly associated with deprivation. Wards that have illustrated the lowest level of uptake fall into the 3% most deprived wards of Wirral compared with England.

Results based on GP practice data also conclude similar results. Uptake is lowest in men, people aged over 70 years, and people from the GP practices that are geographically placed in the most deprived areas of Wirral

Ultimately, low uptake can lead to late diagnosis of preventable cancers and poorer outcomes. By improving low uptake in these areas to the agreed target level (60%) it is estimated through modelling work, that 3 lives could be

prevented each year from bowel cancer (Merseyside and Cheshire Cancer Network 2010).

Further work is needed to highlight these areas of low uptake and address the barriers that are preventing individuals from participating in screening programmes.

8. Recommendations

In order to improve bowel screening uptake in discrete populations, support and interventions should be aimed at;

- Those living in the most deprived areas of Wirral
- Individuals and groups from minority ethnic backgrounds
- Traditionally disadvantaged groups such as those with learning disabilities or impairments

Listed below are specific recommendations for improved uptake;

GP Practice level

- Undertake GP patient data audit
    - Patients who have not participated in the bowel screening programme in the respective round will be flagged on GP information systems. When the patient next visits GP, this will be discussed and encouraged to participate
    - Ethnicity to be recorded on GP systems
    - Those with visual impairments or known learning disabilities to be targeted using effective resources
- GP Practices to pro-actively contact individuals who have not had a bowel screen or have failed to respond to repeat invitations
- Improved monitoring of the patients last known address so that invitations can be sent out to correct addresses
- GPs to be performance monitored on bowel screening uptake.

Education

- Education on the benefits of bowel screening.
    - Develop bowel screening road-shows/health awareness days with key personnel involved i.e. bowel cancer nurse, health and well-being staff specifically targeting the low uptake areas.
    - Utilise the Merseyside and Cheshire Cancer Network Cancer iVAN
    - Develop an interactive guide of what is involved in a routine bowel screen i.e. DVD or illustrative leaflet (this may help to remove the myths about the bowel screening process).
    - Ensure appropriate leaflets are made available at GP practices, local community centres, retirement forums/groups (produced in several formats i.e. large print, Braille and different languages).

Reference:

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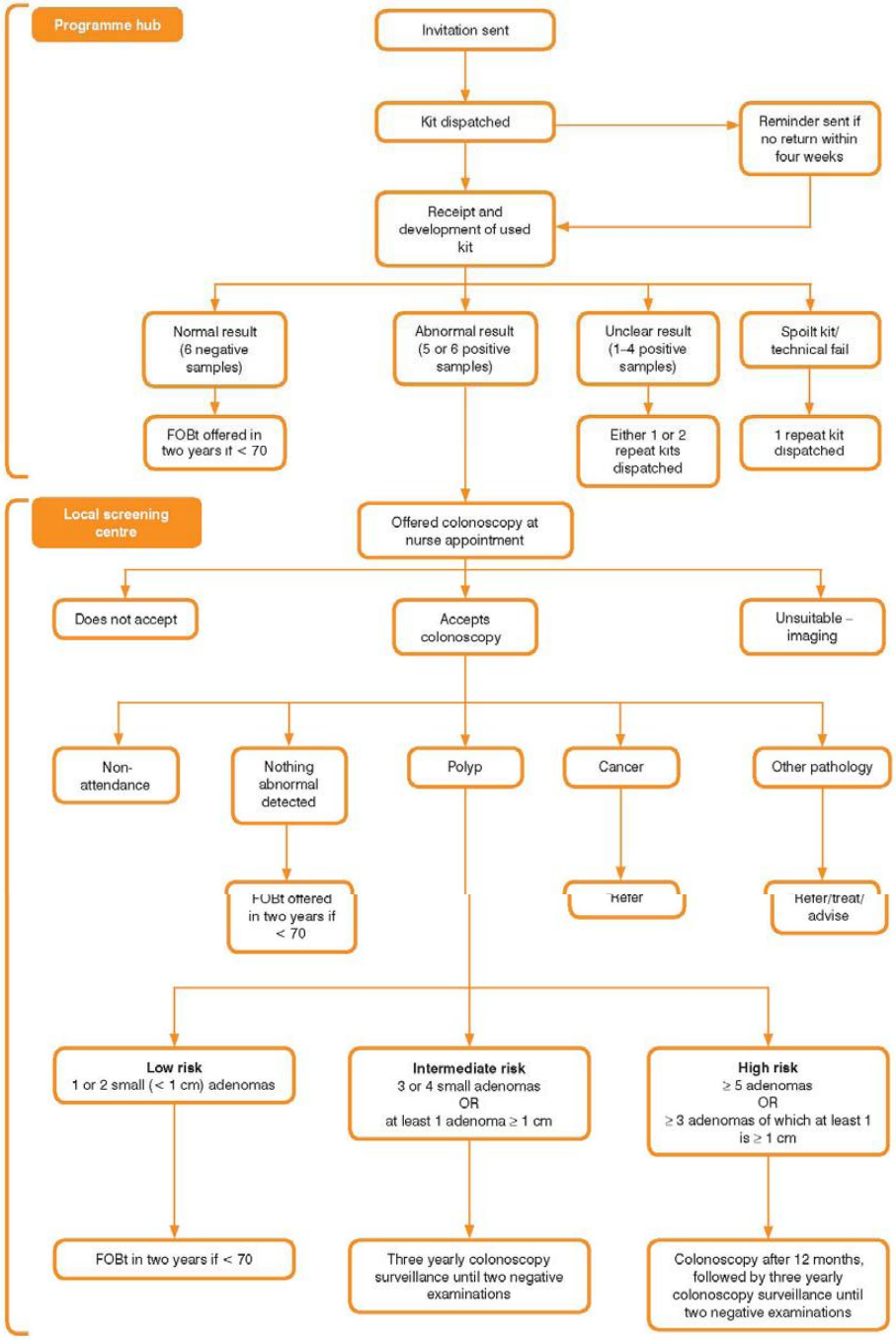
NCHODa. (2010). **Incidence from Colorectal Cancer**. [Online] Available at; http://nww.nchod.nhs.uk/NCHOD/compendium.nsf/($All)/1E28B709DAE54C8A802576D0003312A5/$File/13A_046DRT00++_06_V1.xls?OpenElement [Date Accessed June 2010]

NCHODb. (2010). **Mortality from Colorectal Cancer**. [Online] Available at; http://nww.nchod.nhs.uk/NCHOD/compendium.nsf/($All)/265C1490FE3B2BA1802576D0003317CF/$File/13B_047SM00++_08_V1.xls?OpenElement [Date Accessed June 2010]

NHS Wirral. (2010). **Excess Cancer Deaths in Wirral**. Performance and Public Health Intelligence Team. NHS Wirral

Appendix 1: Bowel Screening Pathway



Source: NHS Bowel Cancer Screening Programme

Appendix 2: Bowel screening uptake by GP Practice 2007 - 2009

Practice	Practice Name	Number of Invitations Sent	Retuned Kit	Uptake
N85001	PARK MEDICAL CENTRE	614	354	58%
N85002	WEST KIRBY HEALTH CENTRE	902	542	60%
N85003	ALLPORT MEDICAL CENTRE	584	340	58%
N85004	WEST KIRBY HEALTH CENTRE	872	557	64%
N85005	EASTHAM GROUP PRACTICE	1698	1053	62%
N85006	CIVIC MEDICAL CENTRE	1337	808	60%
N85007	HESWALL HEALTH CENTRE	1922	1249	65%
N85008	WEST WIRRAL GROUP PRACT	2516	1586	63%
N85009	156 COMMONFIELD ROAD	663	331	50%
N85011	WEST KIRBY HEALTH CENTRE	765	471	62%
N85012	ST.GEORGES MEDICAL CENTRE	1175	612	52%
N85013	UPTON GROUP PRACTICE	1302	772	59%
N85014	270 WOODCHURCH ROAD	1006	548	54%
N85015	DEVANEY MEDICAL CENTRE	932	471	51%
N85016	RIVERSIDE SURGERY	910	431	47%
N85017	CAVENDISH MEDICAL CENTRE	544	212	39%
N85018	THE VILLA MEDICAL CENTRE	860	498	58%
N85019	WHETSTONE LANE MED CENTRE	1004	457	46%
N85020	VICTORIA PARK HEALTH CTR	762	368	48%
N85021	THE HAMILTON MEDICAL CTR.	326	128	39%
N85022	HOLMLANDS MEDICAL CENTRE	524	271	52%
N85023	MANOR HEALTH CENTRE	638	329	52%
N85024	SOMERVILLE MEDICAL CENTRE	837	407	49%
N85025	ST. HILARY BROW GRP PRAC.	721	423	59%
N85027	CENTRAL PARK GROUP PRAC.	885	407	46%
N85028	PRACT	985	550	56%
N85029	THE HEALTH CENTRE	402	172	43%
N85031	GLADSTONE MEDICAL CENTRE	667	274	41%
N85032	GREASBY HEALTH CENTRE	1150	717	62%
N85034	PARKFIELD MEDICAL CENTRE	864	444	51%
N85037	HEATHERLANDS MEDICAL CTR.	480	205	43%
N85038	VITTORIA MEDICAL CENTRE	593	254	43%
N85040	MORETON HEALTH CLINIC	909	481	53%
N85041	GREENWAY ROAD SURGERY	957	482	50%
N85044	CLAUGHTON MEDICAL CENTRE	1080	558	52%
N85046	314 HOYLAKE ROAD	510	273	54%
N85047	THE ORCHARD	786	500	64%
N85048	MORETON MEDICAL CENTRE	708	376	53%
N85051	PARKFIELD MEDICAL CENTRE	886	443	50%
N85052	71 GROVE ROAD	367	211	57%
N85053	FIELD ROAD HEALTH CENTRE	424	208	49%
N85054	100 KINGS LANE	563	338	60%
N85056	WALLASEY VILLAGE PRACTICE	471	250	53%
N85057	TEEHEY LANE MEDICAL CTR.	406	217	53%
N85058	SILVERDALE	811	495	61%
N85059	WARWICK HOUSE	557	311	56%
N85614	213 SEABANK ROAD	200	100	50%
N85616	LISCARD GROUP PRACTICE	489	240	49%
N85617	SPITAL SURGERY	614	424	69%
N85619	THE SURGERY	378	212	56%
N85620	GROVE MEDICAL CENTRE	463	268	58%
N85624	64 TWICKENHAM DRIVE	127	50	39%
N85625	MIRIAM MEDICAL CENTRE	369	143	39%
N85629	EGREMONT MEDICAL CENTRE	495	212	43%
N85633	64 CHURCH ROAD	304	165	54%
N85634	VITTORIA MEDICAL CENTRE	180	63	35%
N85635	THE SURGERY	298	156	52%
N85640	LEASOWE PRIMARY CARE CTR	196	99	51%
N85643	PRENTON MEDICAL CENTRE	242	141	58%
N85648	BLACKHEATH MEDICAL CENTRE	306	143	47%
Y02162	33-35 POOLWOOD ROAD	96	47	49%

Appendix 3a:

Bebington

Bowel screening uptake by LHD, Sex & GP practice 2007 - 2009

Practice Code	Practice Name	Males	Females
N85001	**PARK MEDICAL CENTRE**	54%	62%
N85002	**WEST KIRBY HEALTH CENTRE**	58%	62%
N85003	**ALLPORT MEDICAL CENTRE**	52%	64%
N85004	**WEST KIRBY HEALTH CENTRE**	61%	66%
N85005	**EASTHAM GROUP PRACTICE**	57%	66%
N85006	**CIVIC MEDICAL CENTRE**	58%	63%
N85007	**HESWALL HEALTH CENTRE**	62%	68%
N85008	**WEST WIRRAL GROUP PRACTICE**	61%	65%
N85011	**WEST KIRBY HEALTH CENTRE**	56%	66%
N85032	**GREASBY HEALTH CENTRE**	58%	66%
N85047	**THE ORCHARD**	60%	67%
N85054	**100 KINGS LANE**	55%	64%
N85057	**TEEHEY LANE MEDICAL CENTRE**	54%	53%
N85058	**SILVERDALE**	59%	63%
N85059	**WARWICK HOUSE**	54%	58%
N85617	**SPITAL SURGERY**	66%	72%
N85633	**64 CHURCH ROAD**	51%	57%
Bebington Total		**59%**	**65%**

Appendix 3b

Birkenhead

Bowel screening uptake by LHD, Sex & GP practice 2007 - 2009

Practice Code	Practice Name	Males	Females
N85009	156 COMMONFIELD ROAD	47%	53%
N85013	UPTON GROUP PRACTICE	57%	61%
N85014	270 WOODCHURCH ROAD	49%	60%
N85015	DEVANEY MEDICAL CENTRE	50%	51%
N85016	RIVERSIDE SURGERY	45%	50%
N85017	CAVENDISH MEDICAL CENTRE	37%	41%
N85018	THE VILLA MEDICAL CENTRE	59%	57%
N85019	WHETSTONE LANE MED CENTRE	44%	48%
N85020	VICTORIA PARK HEALTH CENTRE	47%	49%
N85021	THE HAMILTON MEDICAL CENTRE	40%	39%
N85022	HOLMLANDS MEDICAL CENTRE	51%	53%
N85028	MORETON CROSS GROUP PRACTICE	53%	58%
N85029	THE HEALTH CENTRE	44%	42%
N85031	GLADSTONE MEDICAL CENTRE	44%	38%
N85034	PARKFIELD MEDICAL CENTRE	51%	52%
N85037	HEATHERLANDS MEDICAL CENTRE	40%	45%
N85038	VITTORIA MEDICAL CENTRE	42%	43%
N85040	MORETON HEALTH CLINIC	50%	55%
N85041	GREENWAY ROAD SURGERY	46%	54%
N85044	CLAUGHTON MEDICAL CENTRE	50%	53%
N85046	314 HOYLAKE ROAD	48%	58%
N85048	MORETON MEDICAL CENTRE	54%	53%
N85051	PARKFIELD MEDICAL CENTRE	50%	50%
N85625	MIRIAM MEDICAL CENTRE	37%	41%
N85634	VITTORIA MEDICAL CENTRE	37%	33%
N85643	PRENTON MEDICAL CENTRE	55%	61%
Y02162	33-35 POOLWOOD ROAD	57%	43%
Birkenhead Total		48%	52%

Appendix 3c

Wallasey

Bowel screening uptake by LHD, Sex & GP practice 2007 - 2009

Practice Code	Practice Name	Males	Females
N85012	ST.GEORGES MEDICAL CENTRE	51%	53%
N85023	MANOR HEALTH CENTRE	49%	54%
N85024	SOMERVILLE MEDICAL CENTRE	46%	51%
N85025	ST. HILARY BROW GRP PRAC	60%	57%
N85027	CENTRAL PARK GROUP PRAC	42%	50%
N85052	71 GROVE ROAD	55%	60%
N85053	FIELD ROAD HEALTH CENTRE	45%	54%
N85056	WALLASEY VILLAGE PRACTICE	54%	52%
N85614	213 SEABANK ROAD	48%	52%
N85616	LISCARD GROUP PRACTICE	46%	52%
N85619	THE SURGERY	53%	60%
N85620	GROVE MEDICAL CENTRE	52%	65%
N85624	64 TWICKENHAM DRIVE	42%	35%
N85629	EGREMONT MEDICAL CENTRE	42%	44%
N85635	THE SURGERY	51%	54%
N85640	LEASOWE PRIMARY CARE CTR	58%	45%
N85648	BLACKHEATH MEDICAL CENTRE	44%	50%
Wallasey Total		49%	53%