IFH Diabetes Initiative: EMR tools and Certified Diabetes Educators in a Primary Care Setting

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The Institute for Family Health

- Nonprofit corporation founded to provide high quality primary health services to underserved populations
- Free-standing network of federally qualified centers in Bronx, Manhattan and Mid – Hudson regions
- Overall, we care for 70,000 patients, with 240,000 patient visits per year
- Over 4,200 diabetic patients

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- In 2002, the Institute became one of the first community health centers to implement EHR (Epic Care) throughout its entire organization

- EHR has enabled development and use of multiple types of tools to improve diabetes care:
  - Best practice alerts for providers
  - Best practice alerts for nursing staff
  - Smartsets (template notes, labs, consults)
  - Development of Registry and IFHstats*
  - Targeted interventions by Certified Diabetic Educators*

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EMR tools to improve care to patients living with diabetes – Development of Diabetes Registry

- Team structure very important
- Clinical team needed to:
  - Delineate criteria for inclusion
  - Outline clinical markers of interest for registry
  - Perform quality checks on registry data
- IT support essential to work directly with clinical team members or team representative

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Sample Registry

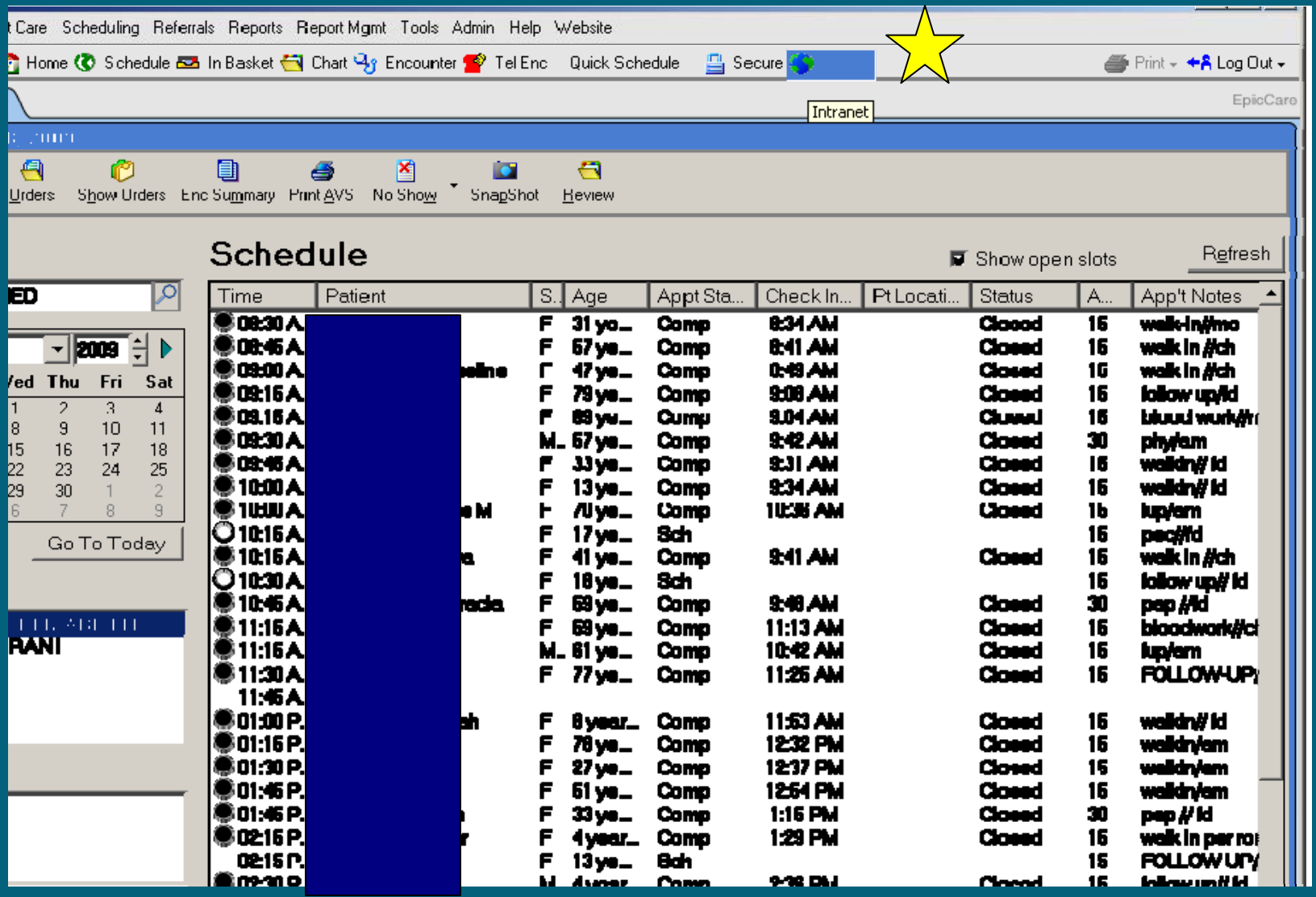
- Important initial step
- Large amount of data
- Cumbersome to use

R	S	T	U	V	W	X	Y	Z	AA	AB
HBA1C_LAST_VALUE	HBA1C_LAST_DATE	HBA1C_AVG_12MOS	LDL_LAST_VALUE	LDL_LAST_DATE	LDL_AVG_12MOS	BP_SYSTOLIC_LAST	BP_DIASTOLIC_LAST	BP_LAST_DATE	BP_SYSTOLIC_AVG_12MOS	BP_DIASTOLIC_AVG_12MOS
6.5	3/24/2009	6.5				180	98	3/24/2009	161.6	92
8	3/15/2008		114	3/17/2008		132	85	4/5/2008	132	85
6.4	8/16/2006		50	8/16/2006		124	76	4/7/2008	124	76
6.2	2/19/2008		59	1/29/2008		140	94	4/7/2008	140	94
6.9	3/26/2004					130	70	9/17/2008	130	70
9.3	3/27/2008		148	3/27/2008		118	76	4/7/2008	118	76
5.8	4/8/2008	5.8	151	4/8/2008	151	124	80	4/7/2008	124	80
						118	88	12/1/2008	119	83
5.5	11/10/2008	5.5				106	58	1/28/2009	98.8	56.4
6.8	11/30/2007		87	11/30/2007		115	80	4/10/2008	115	80
6.3	4/11/2008	6.3	124	4/11/2008	124	110	74	4/10/2008	110	74
5.9	2/5/2008		84	2/5/2008		124	70	4/10/2008	124	70
8.5	4/3/2008	8.5	108	4/3/2008	108	135	72	4/11/2008	135	72
						100	60	10/14/2008	102	65

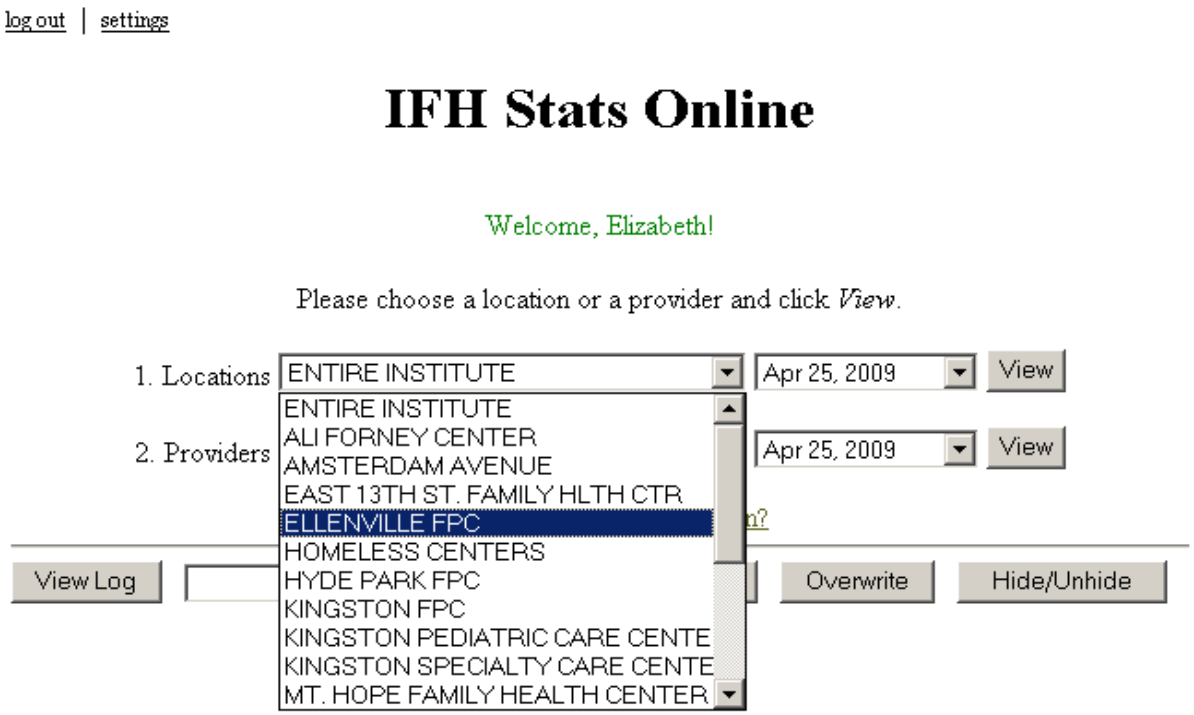
Development of IFHstats

- Need to process and present enormous amount of data in useful way for providers to act on information
- And for clinical administrators to assess improvements and track criteria for accreditation processes
- NCQA's DPRP 10 guidelines were use to develop IFHstats – a clinical quality of care report for each provider and each site
- This user-friendly monthly quality of care report is accessible to all providers directly from their EPIC screen

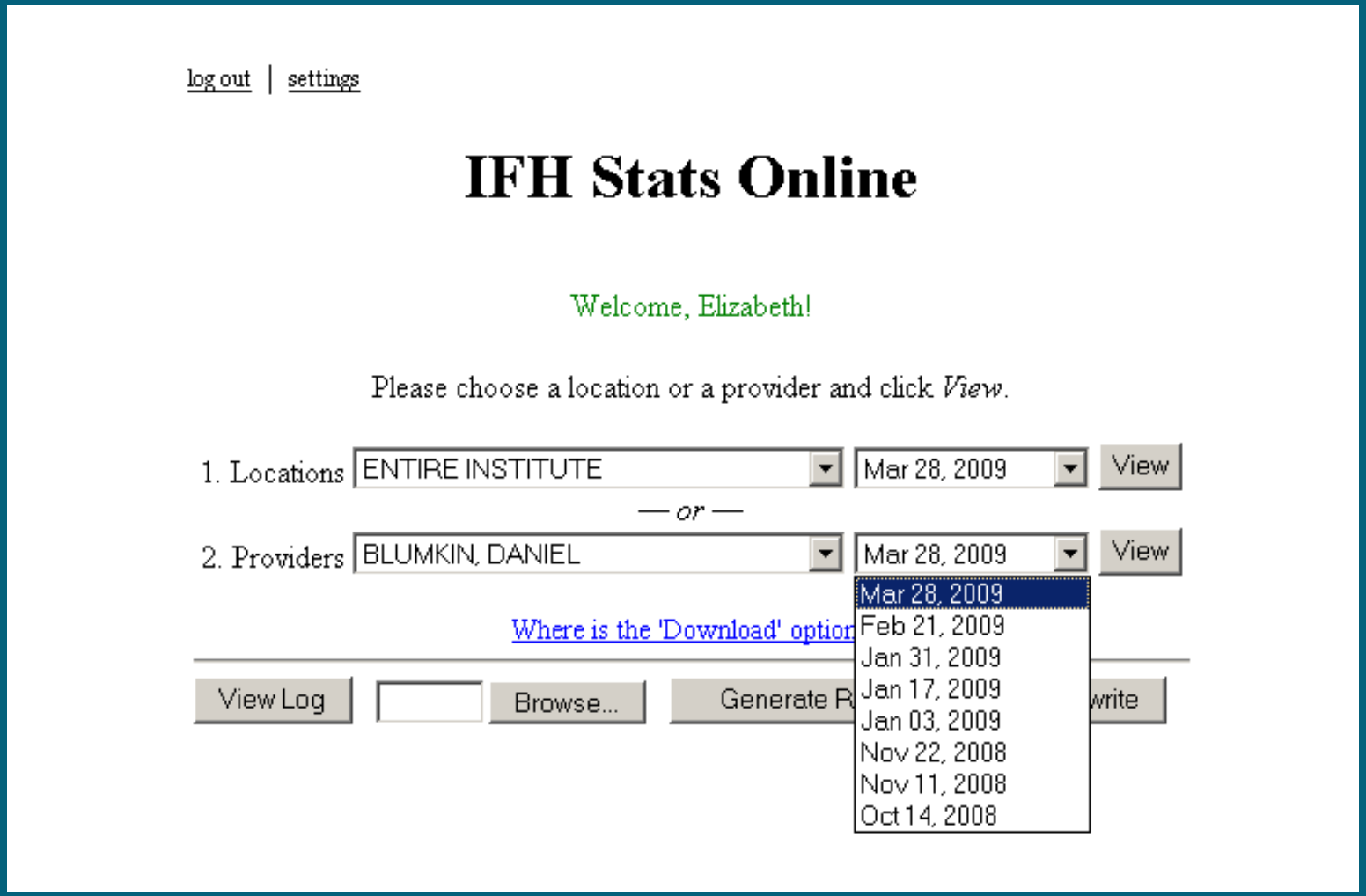
IFHstats – Easily Accessible



IFHstats – Track Progress by Site



IFHstats – or by provider



IFHstats – Site lists active providers

log out | more reports

EAST 13TH ST. FAMILY HLTH CTR

Report Date: 04/25/2009

Where is the 'Download' option?

Primary Providers

PROVIDER (PRIMARY)	PANEL	A1C < 7%	A1C > 9%	BP < 130/80	BP >= 140/90	LDL < 100	LDL >= 130	EYE EXAM	NEPHRO	NEURO	NON-SMOKE	TOTAL
-- Goals (75pt Needed) --		>40% (10pt)	<=15% (15pt)	>25% (10pt)	<=35% (15pt)	>36% (10pt)	<=37% (10pt)	>60% (10pt)	>80% (5pt)	>80% (5pt)	>80% (10pt)	100pt
INSTITUTE	4290	46%	19%	37%	30%	50%	21%	9%	61%	31%	76%	55
EAST 13TH ST. FAMILY HLTH	**71**	**51%**	**12%**	**51%**	**23%**	**60%**	**14%**	**24%**	**66%**	**35%**	**83%**	**80**
-- CDEs Matching Location --												
ARENSTEIN, TONI	167	29%	29%	31%	38%	50%	24%	17%	71%	57%	86%	40
-- PCPs Matching Location --												
GILLESPIE, GINGER	24	52%	14%	42%	33%	43%	24%	13%	67%	42%	78%	70
LESNEWSKI, RUTH	45	51%	11%	58%	18%	72%	8%	31%	69%	31%	87%	80
SIMONS, REBECCA	7	20%	20%	14%	29%	0%	100%	0%	14%	14%	100%	25
TEETS, RAYMOND	21	43%	14%	29%	29%	47%	24%	5%	67%	29%	86%	80

BP < 130/80 [Goal is >25% (10pt)]

IFHstats – Areas for improvement highlighted

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LESNEWSKI, RUTH

Report Date: 03/28/2009

Where is the 'Download' option?

Summary

PROVIDER	PANEL	A1C < 7%	A1C > 9%	BP < 130/80	BP >= 140/90	LDL < 100	LDL >= 130	EYE EXAM	NEPHRO	NEURO	NON-SMOKE	TOTAL
-- Goals (75pt Needed) --		>40% (10pt)	<=15% (15pt)	>25% (10pt)	<=35% (15pt)	>36% (10pt)	<=37% (10pt)	>60% (10pt)	>80% (5pt)	>80% (5pt)	>80% (10pt)	100pt
INSTITUTE	4282	46%	19%	37%	30%	49%	21%	8%	60%	24%	75%	55
EAST 13TH ST. FAMILY HLTH	78	48%	16%	42%	23%	58%	17%	23%	62%	23%	82%	65
LESNEWSKI, RUTH	**46**	**51%**	**14%**	**50%**	**20%**	**70%**	**11%**	**28%**	**67%**	**15%**	**85%**	**80**

IFHstats – Easily review diabetic panel and clinical markers

Patient Details

LAST NAME	FIRST NAME	MRN	SEEN	NEXT	A1C	LDL	SYS	DIA	OPT	NEPH	NEUR	SMOKE	ETHNICITY	CDE	PRIM LOC
[redacted]		01/21/40	12/11/08		5.6	121	98	62	07/12/04			NEVER	HISPANIC		PARE FAM
		1054873	12/02/08		8.9	99	130	80	08/11/04	05/07/08	09/02/08	QUIT	HISPANIC		PARE FAM
		1238707	04/16/09		6.7	117	140	84		04/16/09	04/16/09	YES	BLACK		PARE FAM
		11/20/66	09/09/08	05/18/09	7.4	112	165	95	03/12/08	02/05/08	09/09/08	QUIT	BLACK		PARE FAM
		1166283	12/24/08		6.4	117	140	90				YES	BLACK		WEST AVE
		02/11/57	03/17/09		9.9	122	110	70	07/23/04	09/02/08	01/27/09	QUIT	BLACK		PARE FAM
		08/15/63	12/11/08		6.1	66	120	76	06/04/08	11/19/07	12/11/08	NEVER	BLACK		PARE FAM
		1279485	03/12/09				130	70			03/10/09	NEVER	HISPANIC		WEST AVE
		1126879	03/27/09		8.6	218	88	56	03/12/07	12/11/08	12/11/08	NEVER	OTHER		PARE FAM
		1098972	03/03/09		7.7	104	126	70		03/03/09		NEVER	BLACK		PARE

IFHstats – Identify disparities

Patient Ethnicity Groups

ETHNICITY	PANEL	A1C < 7%	A1C > 9%	BP < 130/80	BP >= 140/90	LDL < 100	LDL >= 130	EYE EXAM	NEPHRO	NEURO	NON-SMOKE	TOTAL
-- Goals (75pt Needed) --		>40% (10pt)	<=15% (15pt)	>25% (10pt)	<=35% (15pt)	>36% (10pt)	<=37% (10pt)	>60% (10pt)	>80% (5pt)	>80% (5pt)	>80% (10pt)	100pt
ASIAN	4	50%	0%	0%	75%	75%	25%	75%	25%	100%	100%	70
BLACK	78	39%	22%	37%	35%	42%	13%	15%	55%	51%	77%	45
HISPANIC	37	36%	33%	30%	27%	38%	25%	5%	43%	51%	83%	55
MULTI-RACIAL	2	100%	0%	100%	0%	0%	50%	0%	0%	0%	100%	60
NATIVE AMERICAN	1	0%	100%	100%	0%			0%	0%	0%	100%	35
WHITE	7	17%	17%	29%	29%	33%	17%	14%	43%	14%	57%	35
OTHER	8	38%	0%	50%	25%	38%	25%	13%	50%	50%	100%	70

IFHstats – Download and sort data

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
FIRST NAME	MRN	SEEN	NEXT	A1C	LDL	SYS	DIA	OPT	NEPH	NEUR	SMOKE	ETHNICITY	CDE	PRIMARY L
	601320	11/10/08		5.8	188	138	86				NEVER	BLACK		EAST 13TI
	1268550	01/05/09	04/13/09	12.2	187	138	76				QUIT	WHITE	YES	EAST 13TI
	1040105	03/11/09	04/08/09	6.6	165	120	72	09/07/07	07/16/08		NEVER	HISPANIC		EAST 13TI
	981898	03/04/09	04/01/09	5	157	120	78	08/19/08	03/04/09		YES	BLACK		EAST 13TI
	607060	03/24/09	03/31/09	12.9	127	138	82	09/08/04	02/27/09		YES	BLACK		EAST 13TI
	601350	02/04/09		7.2	126	110	60	03/27/09	02/04/09	05/31/05	NEVER	BLACK	YES	EAST 13TI
	604440	08/29/08		8.5	117	124	78	06/27/07	02/26/08	11/05/04	QUIT	BLACK		EAST 13TI
	600080	12/05/08		7.8	111	138	70		09/23/08		YES	BLACK		EAST 13TI
	1086725	03/23/09		9.4	108	130	60	09/07/04	11/14/07		NEVER	WHITE		EAST 13TI
	600230	03/13/09	04/03/09	5.6	104	124	70	10/23/08	02/11/09		QUIT	HISPANIC	YES	EAST 13TI
	601570	11/11/08	04/15/09	6.1	104	150	70	01/26/09	11/11/08		QUIT	HISPANIC		EAST 13TI
	1271190	08/04/08		8.8	99	126	70		08/04/08		YES	WHITE		EAST 13TI
	600776	10/28/08		5.2	93	120	60	06/02/08	06/11/08		QUIT	WHITE		EAST 13TI
	1080100	12/05/08	03/30/09	5.6	90	130	80		04/21/08		QUIT	BLACK		EAST 13TI
	1110553	10/01/08		5.7	90	112	70	08/29/08	02/18/08		NEVER	HISPANIC		EAST 13TI
	603200	12/10/08	03/30/09	5.8	90	110	70	09/08/04	12/10/08		NEVER	HISPANIC		EAST 13TI
	1067653	03/17/09	04/14/09	5.6	89	142	84	08/21/06	09/30/08	01/19/05	NEVER	HISPANIC		EAST 13TI
	610205	03/10/09	05/08/09	6.9	88	112	76		10/10/08	09/08/04	NEVER	BLACK		EAST 13TI
	600708	02/02/09		6.9	86	130	80		12/02/08	02/11/09	QUIT	BLACK		EAST 13TI
	1130632	03/10/09	04/08/09	6.4	86	130	78		07/01/08		YES	WHITE		EAST 13TI
	1102490	01/21/09		6.3	83	122	74	10/26/05	03/25/08	10/23/08	NEVER	HISPANIC	YES	EAST 13TI
	1133062	02/11/09		6.4	82	118	70	03/02/09	02/11/09	10/23/08	NEVER	HISPANIC	YES	EAST 13TI
	601602	03/13/09	04/01/09	11.9	81	150	70	06/13/07	02/04/09	09/17/07	YES	HISPANIC		EAST 13TI
	1282836	03/11/09	04/14/09	4.8	81	120	62		02/11/09		NEVER	BLACK		EAST 13TI
	609260	02/02/09		7.3	80	160	86	09/01/04	06/11/08		QUIT	BLACK	YES	EAST 13TI
	1271567	10/29/08		6.4	78	148	80				NEVER	WHITE		EAST 13TI
	1236305	03/25/09	04/06/09	5.9	78	118	64		03/25/09	02/26/09	QUIT	WHITE	YES	EAST 13TI
	1259492	12/09/08		7	75	108	76	10/17/08	12/02/08	08/29/08	NEVER	BLACK	YES	EAST 13TI
	501488	02/24/09		6.2	75	120	60	09/08/04	05/21/08	09/27/05	NEVER	HISPANIC		EAST 13TI
	1243001	02/09/09		8.8	74	180	98	01/07/09	11/19/08	03/09/09	NEVER	HISPANIC		EAST 13TI
	1164867	03/24/09		7.2	69	130	80		10/14/08		YES	HISPANIC		EAST 13TI
	24957	02/16/09		8	65	144	90	03/15/07	11/03/08	09/17/07	QUIT	BLACK		EAST 13TI

IFHstats – focuses providers; and generates many areas for QI projects

- Use report to outreach patients meeting certain criteria (ie: A1c >9)
- Track referral rates
- Identify disparities
- Refer to certified diabetic educators

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CDEs at IFH

- DM is challenge for primary care setting
  - Increase volume
  - Decrease time per visit
- Team approach and collaboration around care very important
- 4 Certified Diabetic Educators in IFH: one per region
  - Follow patients in individual and group visits

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Group Visits

- English group visits in Manhattan (one group per month) and Mid-Hudson (two groups per month) regions
- Both English and Spanish group visits running in Bronx region
- Patients identified and referred by both CDE and PCP
- Groups mostly CDE-led

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Group Visits

- Feasible, billable, increases both provider satisfaction and patient satisfaction
- Shown to improve medium-term outcomes*
- Bronx Group visits: 24 patients, average improvement of A1c of those with baseline >8 = 2.4 % in 3 months
  - (range from 1.5 % to 11% drop in 3 months)
- 96% on ASA (vs. 45% institute-wide);
  100% on ACE/ARB (vs. 57% institute-wide)
- 100% nephropathy screen (vs. 60% institute-wide);
  91% neuropathy screen (vs. 24% institute-wide)

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**Diabetes Care* 24:995-1000, 2001

Group Visits, cont.

- Manhattan group visits: 26 patients, average improvement of A1c of those with baseline >8 = 2.2 %
  - (range from 1.2 % to 7.8% drop)
- 85% patients on ASA (vs. 45% institute-wide); 83% on ACE/ARB (vs. 57% institute-wide)
- 81% nephropathy screen (vs. 60% institute-wide); 69% neuropathy screen (vs. 24% institute-wide)

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Great Improvements (Nov – March)

- Westchester increase rate of <7% by 10%
- Amsterdam decreased rate of >9% by 11%
- Mt Hope increased rates of ophthalmology consults by 7%
- Sidney Hillman increased rate of neuropathy screen by 21%!
- 58% patients at E13th Street meet LDL goal
- 45% patients at Urban are at BP goal
- 62% patients at Phillips screened for nephropathy (up by 12%)

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Multifaceted Initiative

- Improvements can not be attributed to only one intervention

- Comprehensive approach to caring for those patients living with diabetes: Creation of registry, centralized outreach, EMR tools (BPAs, IFHstats), nursing training, CDEs (individual and group visits), patient education materials, healthcorps volunteers, increase in patient visits, etc.

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