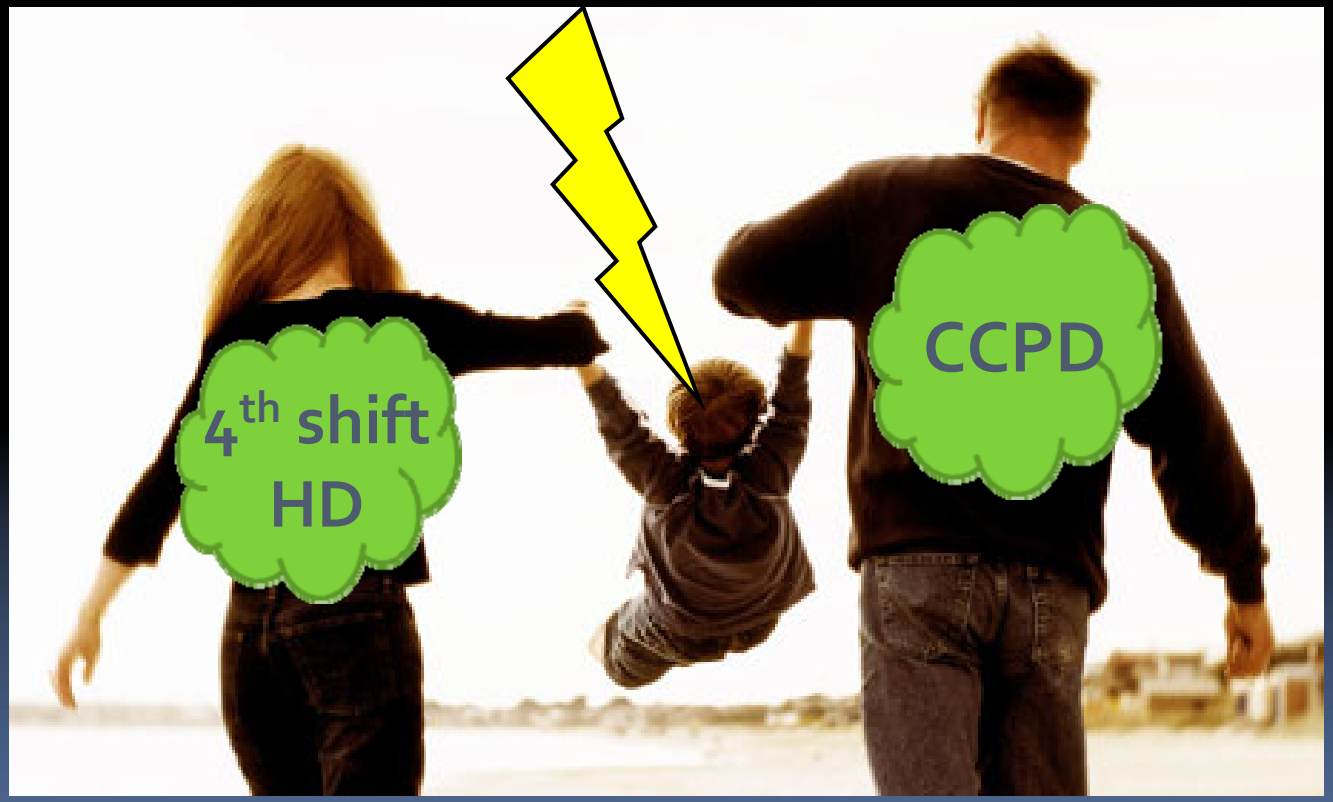
(NOCTURNAL) INDEPENDENT DIALYSIS: GREATER OPTIONS, GREATER FLEXIBILITY!

Small kid in a big world…



Everything old is new again…

Background

- Vancouver General Hospital In-centre NHD program commenced February 2009
- Developed as an 'offshoot' of the IAMHD Program:
  - Always planned to have 'phase 2' of enhanced facility-based independent hemodialysis
  - Additional facility-based independent HD options in BC:
    - Prince George Independent Dialysis Centre
    - Penticton Involved Care Unit

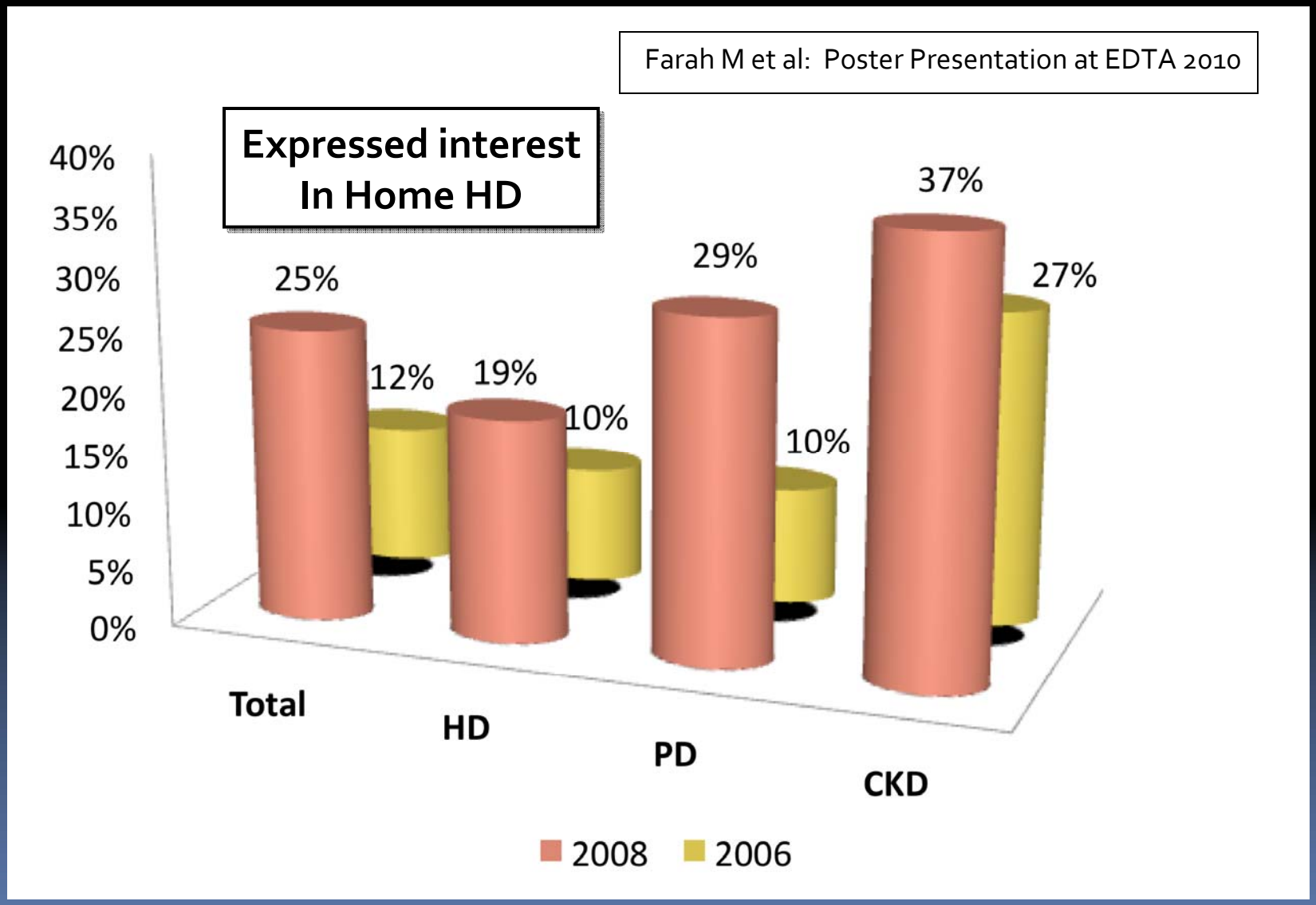
Goals of program at VGH…

- To allow individuals interested and capable of managing independent hemodialysis but without a suitable home location available to do so to be successful with independent therapies.
- To build a platform of dialysis that closely mimics the home hemodialysis model to facilitate a seamless move to home therapy if and when the limiting situation improves
- To provide short term care for patients moving to home therapy but needing 'support' for building confidence before moving home
- To provide respite and/or facility-based independent care for patients currently dialyzing at home and needing a break from home-based treatment.

Background

- Between 2004 – 2009, strong emphasis placed on growth of home-based hemodialysis programs
- Strong interest in independent dialysis noted by patients at all stages of kidney disease.

Provincial Patient Feedback…

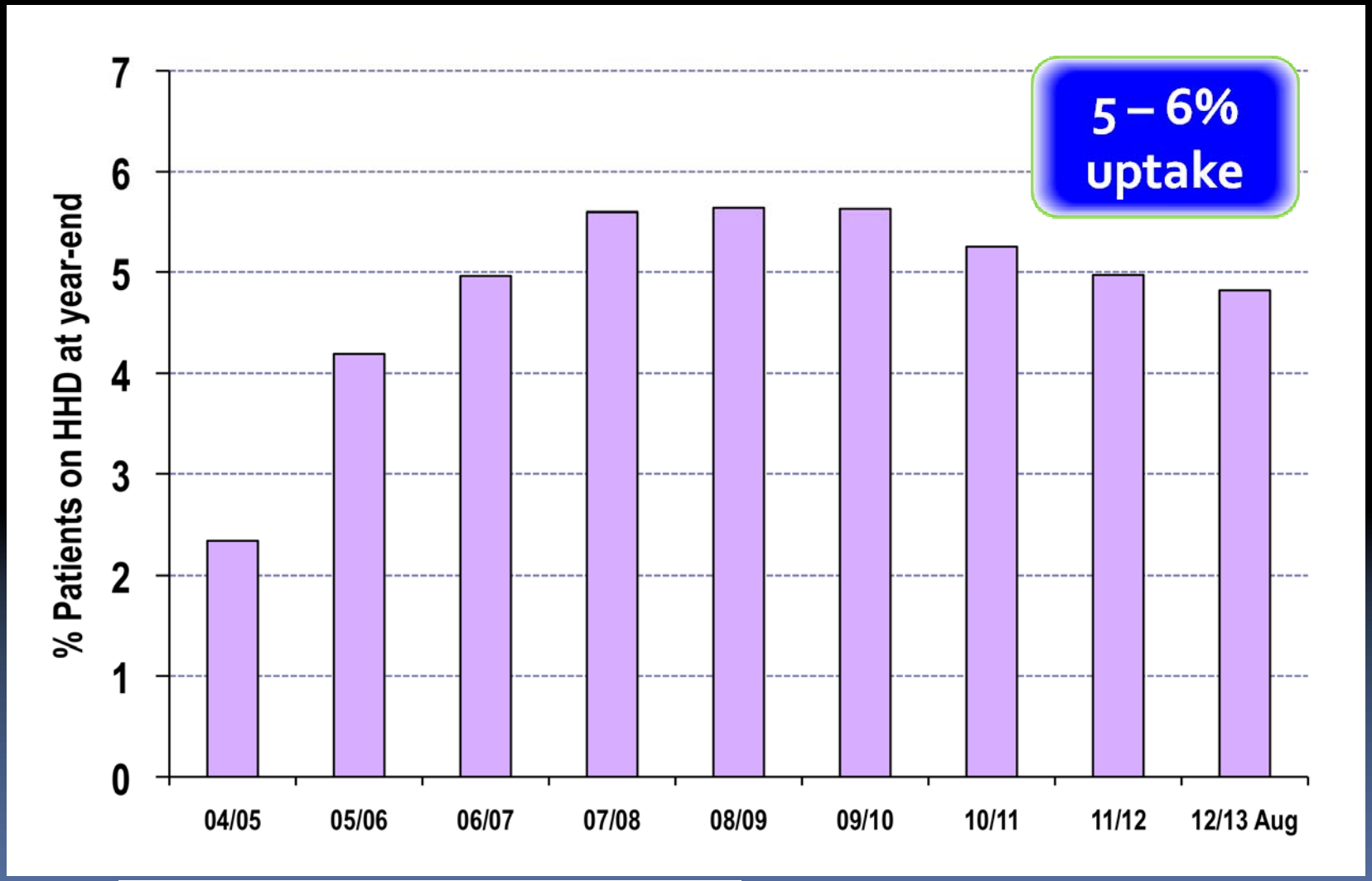


From patient perspective…

- 37% of CKD clinic patients indicate interest in independent HD…
- 25% of all patients indicate an interest in independent HD…
- Interest in independent HD seems to be growing year over year…

…BUT…

Prevalent Rate of Home HD* Over Time



** those on training not included*

Still above national average!

Table 14: Prevalent End-Stage Renal Disease Patients by Type of Treatment, Canada, 2001 to 2010 (Number, Rate per Million Population, Percentage of Total)

Type of Treatment		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
HD Home	N	226	258	303	369	485	572	638	718	786	834
	RPMP	7.3	8.2	9.6	11.6	15.0	17.5	19.4	21.5	23.3	24.5
	%	0.8	0.9	1.0	1.2	1.5	1.7	1.8	2.0	2.1	2.1
HD Institutional	N	12,430	13,34[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17,081	17,712	18,244
	RPMP	400.7	425.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	512.5	525.0	534.9
	%	46.7	47.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	46.7	46.5	46.4
CAPD	N	1,886	1,77[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1,608	1,566	1,563
	RPMP	60.8	56.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	48.2	47.0	45.8
	%	7.1	6.3	5.7	5.3	5.0	4.6	4.5	4.4	4.2	4.0
APD	N	1,468	1,598	1,698	1,915	2,081	2,222	2,314	2,392	2,501	2,547
	RPMP	47.3	50.9	53.6	59.9	64.5	68.1	70.3	71.8	74.1	74.7
	%	5.5	5.7	5.7	6.2	6.4	6.6	6.6	6.5	6.6	6.5
Transplant	N	10,580	11,109	11,666	12,189	12,700	13,342	14,090	14,740	15,470	16,164
	RPMP	341.1	354.1	368.5	381.5	393.5	409.0	427.9	442.3	458.5	473.9
	%	39.8	39.5	39.5	39.2	39.1	39.4	40.0	40.3	40.7	41.1
Total	**N**	**26,590**	**28,090**	**29,570**	**31,077**	**32,486**	**33,889**	**35,265**	**36,539**	**38,055**	**39,352**
	RPMP	**857.2**	**895.4**	**934.0**	**972.8**	**1,006.7**	**1,038.8**	**1,070.8**	**1,096.4**	**1,127.9**	**1,153.7**

3.6% nationally (excluding Tx)

Note

HD: hemodialysis; CAPD: continuous ambulatory peritoneal dialysis; APD: automated peritoneal dialysis.

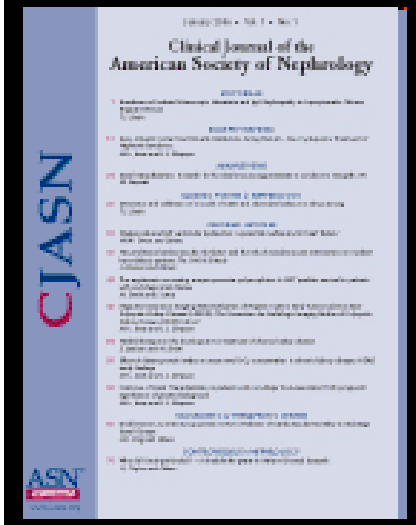
Sources

Canadian Organ Replacement Register, 2011, Canadian Institute for Health Information; Statistics Canada.

Experience in PHC/VCH

October 2004 – October 2007

Parameter	Number
Patients assessed	134
Patients trained	85
Patients excluded	49
Patients excluded due to home/social reasons	***14***



"Patient-Perceived Barriers to the Adoption of Nocturnal Home Hemodialysis"

Cafazzo J, Leonard K, Easty A, Rossos P, Chan C

Clin J Am Soc Nephrol 4: 784-89, 2009

"Patient-Perceived Barriers to the Adoption of Nocturnal Home Hemodialysis"

- 66 NHHD patients and 290 CHD patients in UHN surveyed.
- 85% response NHHD group; 77% response CHD group

- Identified barriers:
  - Perceived burden on family members
  - Fear of self-cannulation
  - Fear of a catastrophic event in the absence of nursing support
  - Lack of self-efficacy

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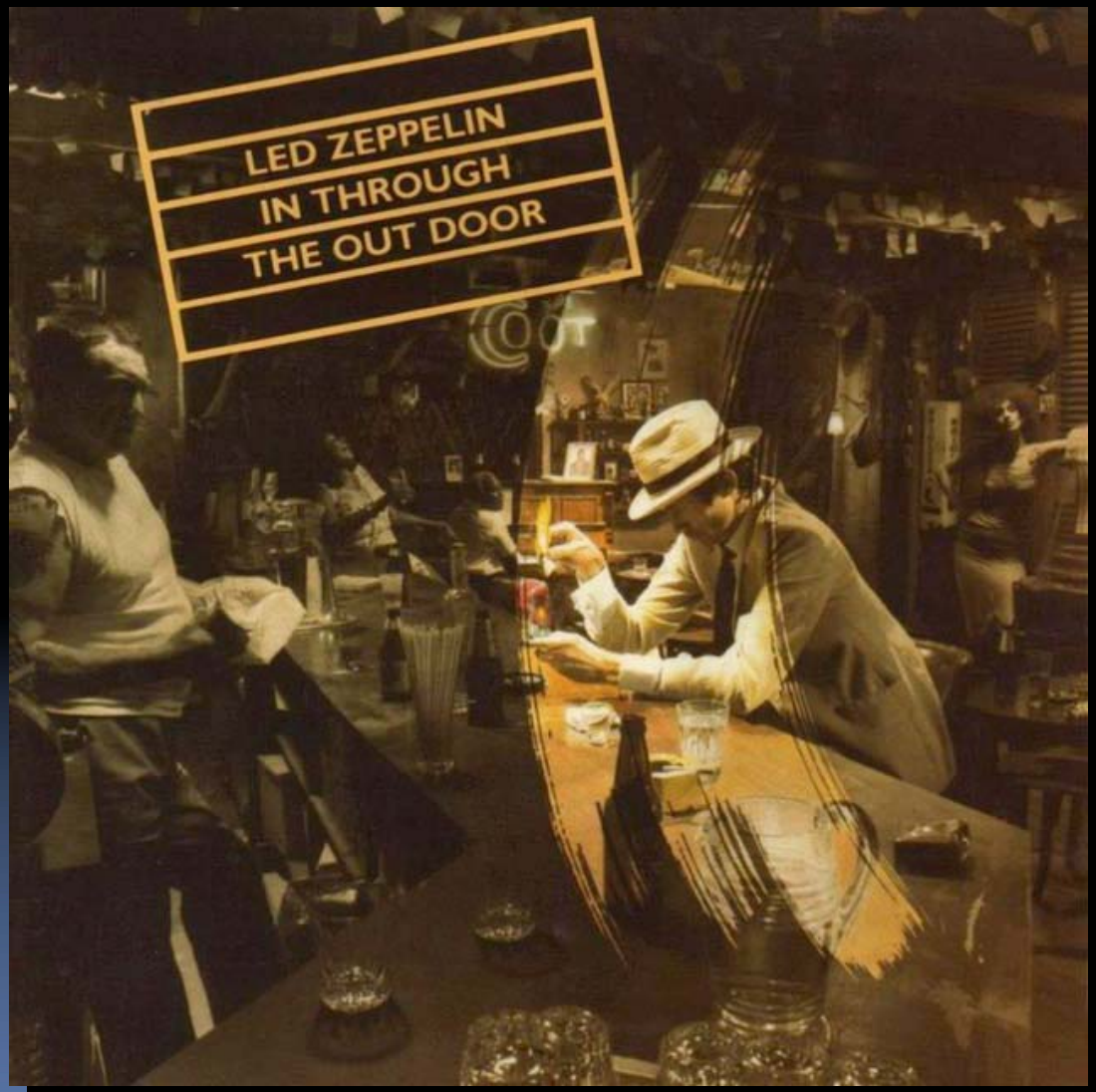
Dynamics of entries and exits



Who may benefit from Facility-based independent dialysis?

Method to Assess Treatment Choices for Home Dialysis (MATCH-D)

www.homedialysis.org/match-d

Suitability Criteria for *Self* Home Hemodialysis: Conventional, Daily, Nocturnal

Strongly Encourage Home HD (HHD)

- ☐ Any patient who *wants* to do HHD or has no barriers to it
- ☐ Employed full- or part-time
- ☐ Drives a car – skill set is very similar to learning HHD
- ☐ Caregiver for a child, elder, or person with disability
- ☐ Lives far from clinic and/or has unreliable transportation
- ☐ Student – grade school to grad school
- ☐ Wants a flexible schedule for any reason
- ☐ Has rejected a transplant
- ☐ Has neuropathy, amyloidosis, LVH, uncontrollable BP†‡
- ☐ Obese/large; conventional HD or PD are not adequate ††
- ☐ Prefers a liberal diet and fluids, and/or unlikely to follow conventional HD diet and fluid limits†‡
- ☐ Is pregnant or wants to be ††‡
- ☐ Frail/elderly with involved, caring helper who wants HHD*
- ☐ Values flexibility and control of own treatment
- ☐ No longer able to do PD
- ☐ Would like to maximize health outcomes

Encourage HHD After Assessing & Eliminating Barriers

- ☐ **Not eligible for funded home dialysis** – consider whether can pay for own dialysis
- ☐ **Unkempt** – provide hygiene education; assess results
- ☐ **Has pet(s)/houseplants** (carry bacteria) – bar from room at least while cannulating/connecting access
- ☐ **Frail or can't walk/stand** – assess lifting ability, offer PT*
- ☐ **Illiterate** – use pictures to train, return demonstrations to verify learning, tape recorders for patient reports
- ☐ **Hearing impaired** – use light/vibration for alarms
- ☐ **Depressed, angry, or disruptive** – increased control with HHD may help
- ☐ **No support person available** – put in communication safeguards to minimize risks
- ☐ **Rents** – check with landlord if home changes needed
- ☐ **Can't/won't self-cannulate** – use patient mentor, practice arm, local anesthetic cream, desensitization*
- ☐ **No running water, poor water quality, low water pressure** – assess machine & water treatment options
- ☐ **Limited space for supplies** – visit home, 2x/mo delivery, consider machine with fewer supply needs
- ☐ **Drug or alcohol abuse** – consider HHD after rehab
- ☐ **Bedridden and/or has tracheostomy/ventilator** – assess self-care and helper ability*
- ☐ **Rx drugs impair function** – consider drug change
- ☐ **Needs/wants to travel for work or enjoyment** – consider use of new HHD technologies

May Not Be Able to Do HHD (or Helper Must Do More)

- ☐ Homeless; refer to social services, consider self-care center or community model
- ☐ Can't maintain personal hygiene
- ☐ Home is health hazard, will not correct
- ☐ No or unreliable electricity
- ☐ Brain damage, dementia, or poor short-term memory*
- ☐ No use of either hand*
- ☐ Uncontrolled psychosis or anxiety*
- ☐ Blind or severely visually impaired – consider PD*
- ☐ Uncontrolled seizure disorder*
- ☐ No remaining HD access sites – consider PD
- ☐ Reduced awareness/ability to report bodily symptoms
- ☐ Has living donor, transplant is imminent – consider PD

Check all the boxes that apply. Keep a copy of the MATCH-D in patient record.

* May be able to do with a helper
† Consider nocturnal HHD
‡ Consider daily HHD

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Developed by Dori Schatell, MS, and Beth Witten, MSW, ACSW, LSCSW, for **Home Dialysis Central** (www.homedialysis.org).

‘Red-flags’ for home HD…

May Not Be Able to Do HHD (or Helper Must Do More)
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- Note ‘or Helper Must do More’ clause
- For people without helper, incentre independent facility may be that helper.

HHD End Reasons

End Resons	# Exited Patients (April 1 2004 to Aug 31 2012)
Total	244
Transplantation	70 (29%)
Deceased	41 (17%)
Complication -> Death	15 (6%)
Dialysis Withdrawal	3 (1%)
Medical Reasons	54 (22%)
Family/Patient's Request	18 (8%)
Geographical Reasons	12 (5%)
Moved Out of Province	6 (2%)
Recovered Function	2 (1%)
Other Reasons: no support, hygiene problems, unspecified, etc	23 (9%)

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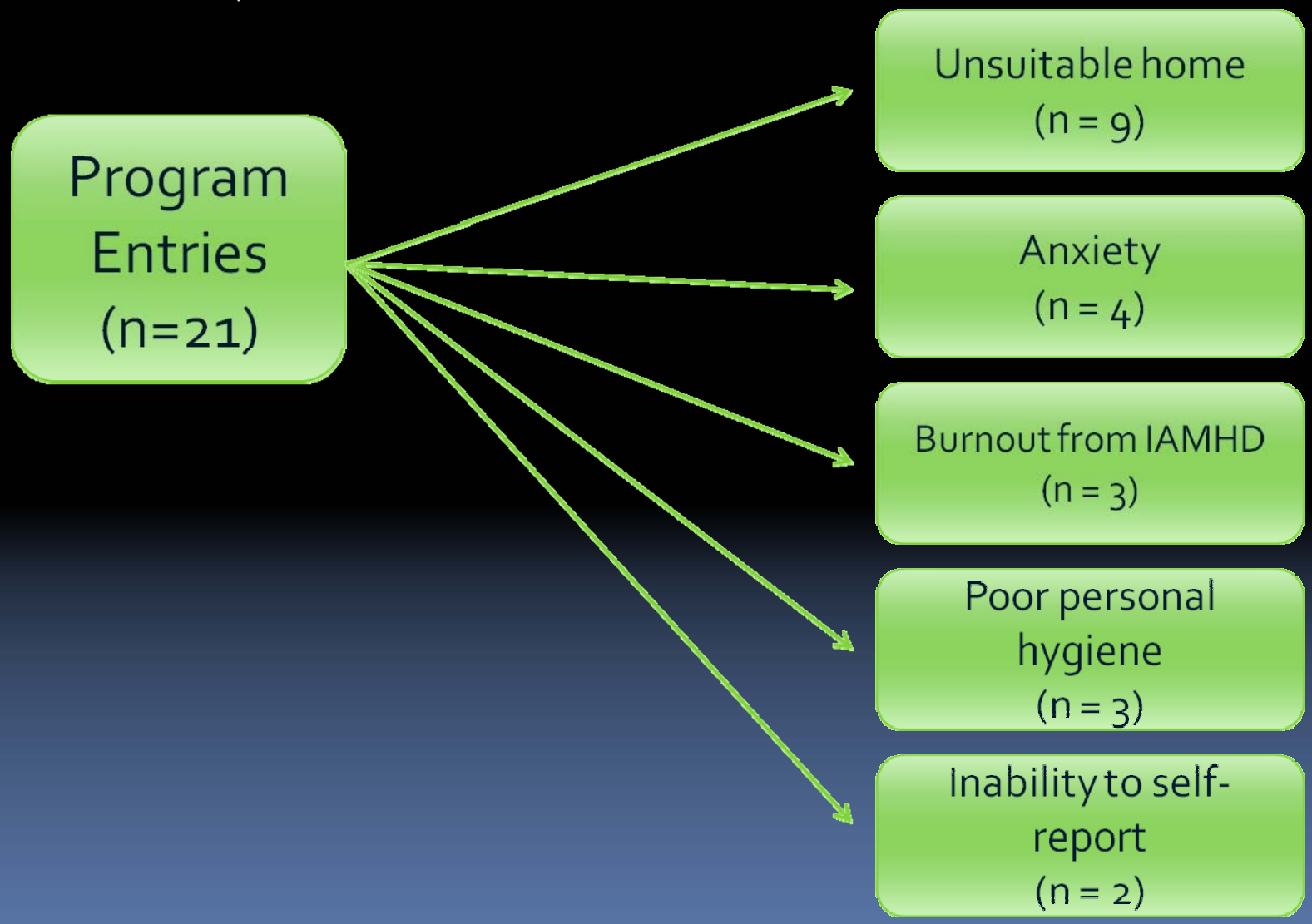
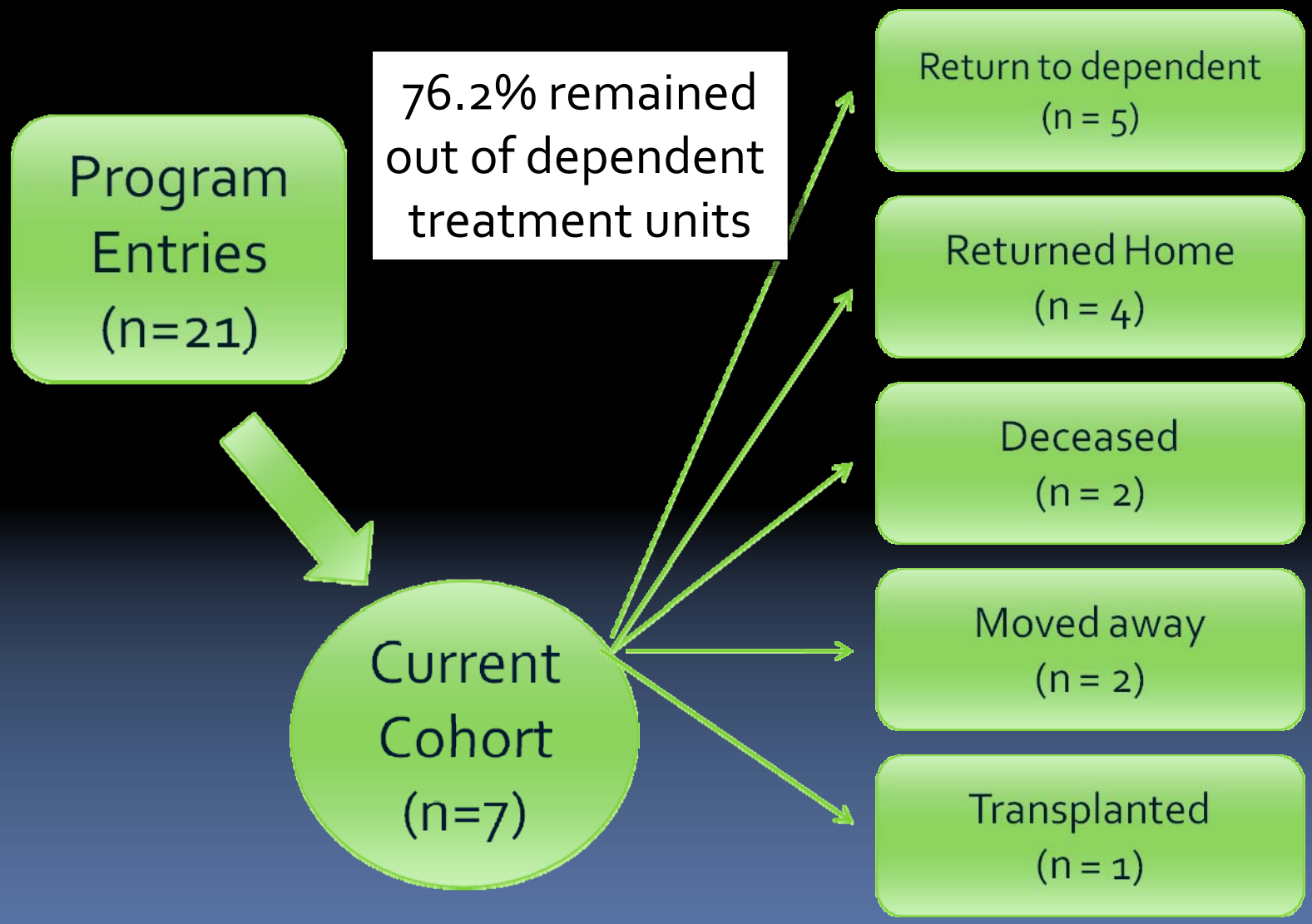
Movement often from most independent to most dependent canid

Experience at VGH

Entry reasons (February 2009 – present)



Patient flow within INHD



Cost argument…

- Rough estimate of costs:
- **$19,700** per patient per year, based on 6 patients dialyzing in program
- (comparator conventional HD approximately **$45,000** per patient per year.)

- Again, an example of intensive therapy provided in a cost effective manner.

Clinical outcomes…

- Similar outcomes to patients receiving intensive therapy in other environments:
  - Improved BP control
  - Improved CKD-Bone Mineral Disease management
  - Reduction in medications
  - Reduced hospitalizations

Patient Quotes:

- "I find this dialysis fits better with my lifestyle than the daytime dialysis…It gives me more energy and more freedom…. After Nocturnal Dialysis I find I have more energy and can last the whole day, so it allows me to do full-time work."

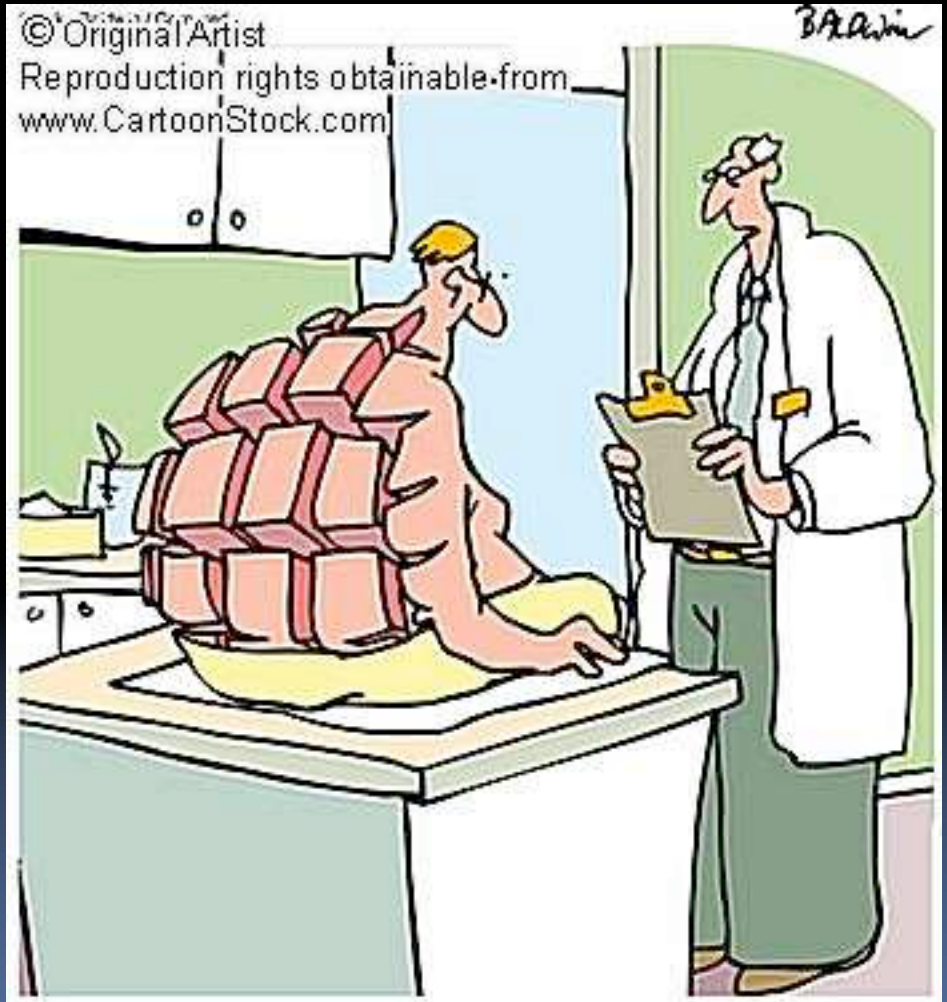
katherine Denamy

- "I was considering a return to daytime dialysis when this new pilot project was suggested as an option…I now have the best of both worlds – dialyzing at night doesn't affect my ability to work and I can do my own independent dialysis in a place where there's medical support if I need it."

Jared Provost

Where does INHD fit?

A safety net…



"Lucky for you there was a safety net."

Another option…

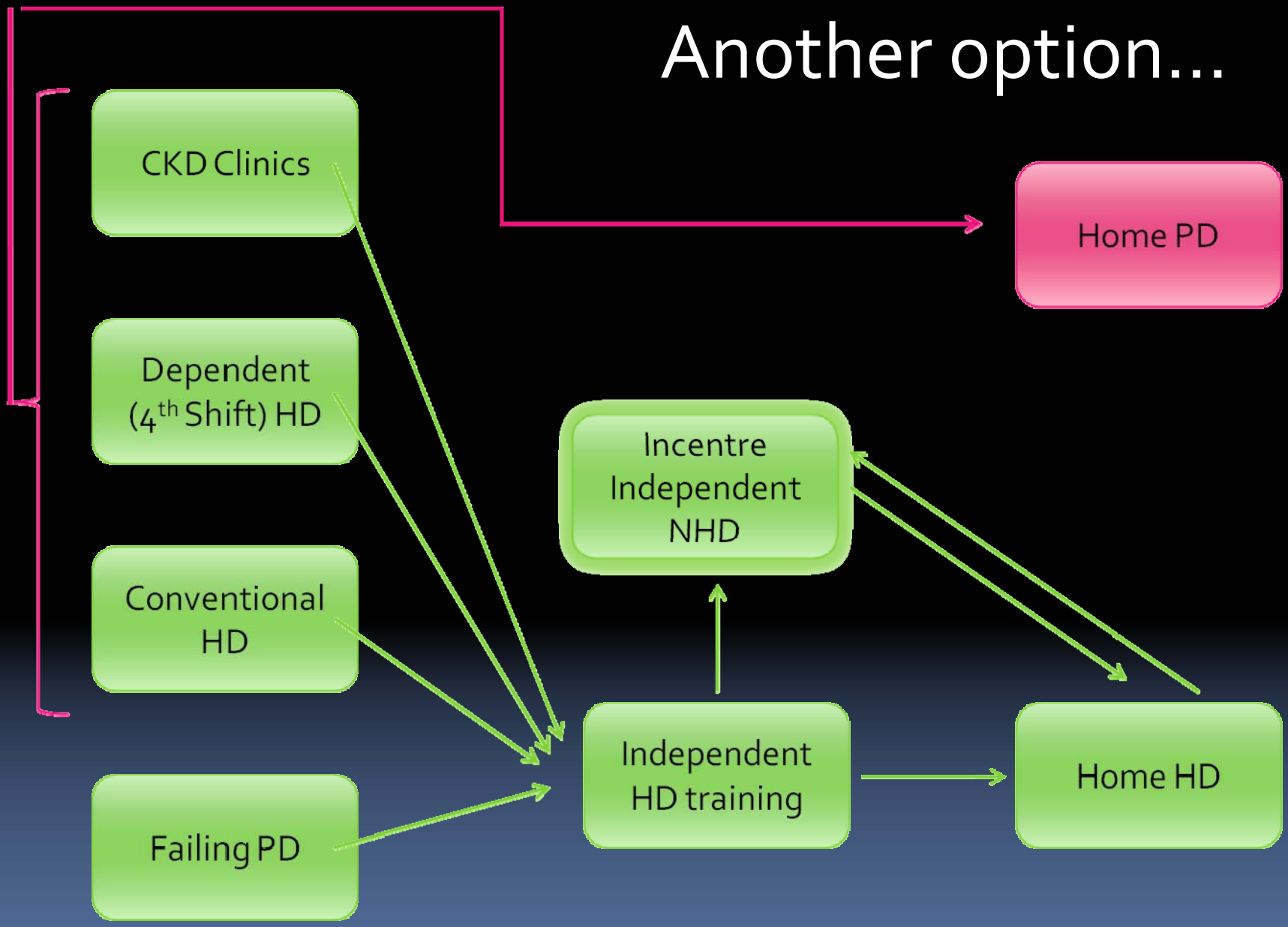


Photo credit:
www.nashuatelegraph.com

THANK YOU