

**JAZZ IT UP**  
WITH INNOVATION  
AND ENGAGEMENT

**AADE15** | AUGUST 5 - 8, 2015  
NEW ORLEANS, LOUISIANA



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*Presenter(s): Lisa Gurman, RN, BScN, MScCH, CDE and Bo Fusek, RN, BA, BEd, BScN, MEd - No COI/ Financial Relationships to Disclose.*


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**LINKING DIABETES AND PRESSURE  
ULCER OCCURRENCE IN AN ACUTE CARE  
ORGANIZATION**

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**Background**

- Wound care P+I study q 2yrs since 2005
- Gap in data for DM P+I
- Connection between DM and Wound Care



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### Planning for P+

- Adding of DM data points
- A1C, sliding scale and DM



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### Purpose

To investigate the effect of diabetes on the prevalence of pressure ulcers among an acute inpatient population in a tertiary health care center.

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### Methods

- hospital wide prevalence and incidence study of pressure ulcers every two years
- Staff complete a skin assessment on every eligible inpatient for skin breakdown related to pressure
- Demographic and diagnostic information is collected on all participating patients
- Additional information is collected on patients who have pressure ulcers i.e. contributing factors, Braden scale scores, therapeutic surface utilization and admission documentation
- This year, we collected additional information on all participating patients related to a diagnosis of diabetes.

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### Results: Hamilton Health Science Prevalence and Incidence Results 2005-2013

	Prevalence	Incidence
2005	27%	15%
2007	26%	10%
2009	21%	8%
2011	22%	7%
2013	27%	6%

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### Prevalence of Diabetes 2013

Site	Prevalence	Total	%
HGH	100	330	30%
JHCC	89	344	26%
Regional Rehab	24	78	31%
St. Peter's	59	216	27%
Total	272	968	28%

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### Prevalence of Diabetes and Pressure Ulcers – General Site

Site	Location/Unit	Diabetes - Yes	PU and Diabetes - Yes (count)
HGH (330)	4 West	14	3
	5 South	8	2
	5 West	9	7
	6 South	5	3
	6 West	4	4
	7 South	9	1
	7 West	5	2
	8 South	16	3
	8 West	7	2
	Burn Unit	1	0
	CCU	8	1
	ICU East/South	13	6
	ICU West	1	1
Total		100	35

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### Prevalence of Diabetes and Pressure Ulcers – Juravinski Site

Site	Location/Unit	Diabetes - Yes	PU and Diabetes - Yes (count)
MCC (344)	B1	6	2
	B3	11	4
	C4	4	2
	CCU - BHCC	1	0
	F2	3	1
	I3	9	5
	E4	6	1
	F3	8	3
	F5	7	3
	B5	12	6
	ICU - BHCC	4	3
	Ward 2 - Geriatrics and Neuro/Oncology	15	10
	Ward 3 - Neuroskeleton	3	1
	MCC Total	89	41

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### Prevalence of Diabetes and Pressure Ulcers – St Peter's

Site	Location/Unit	Diabetes - Yes	PU and Diabetes - Yes (count)
St. Peter's No 216	2W - SPH	12	2
	3E - SPH	13	7
	3W - SPH	6	2
	4E - SPH	8	4
	4W - SPH	5	3
	Unable Terrace	5	1
St. Peter's Total	59	22	

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### Prevalence of Diabetes and Pressure Ulcers- Regional Rehab

Site	Location/Unit	Diabetes - Yes	PU and Diabetes - Yes (count)
Regional Rehab	B2 North	7	1
	B3 South	13	2
Rehab	B3 South	4	1
Regional Rehab Total		24	4

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### Overall – Prevalence of Pressure Ulcers Among Patients with Diabetes

Site	Prevalence of PU among pt with diabetes
Rehab	35.00%
MCC	46.07%
MUMC	Unable to determine
Regional Rehab	16.67%
St. Peter's	37.25%
Patients with Diabetes and Pressure Ulcer - Relative Risk	1.64

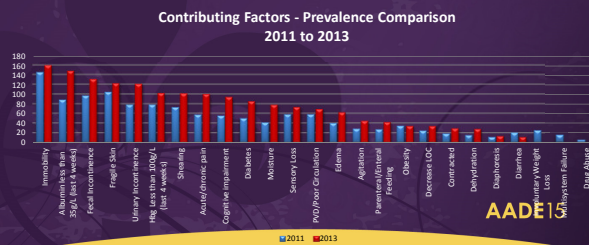
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### Variables Impacting On Pressure Ulcer Development

	Significance	Odds ratio
Diabetes	.001	2.018
Age	.119	1.021
Weight	.027	.987
Constant	.168	.177

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### 2011 and 2013 Contributing Factors for Pressure Ulcer Prevalence



### Observations

- Prevalence ( 21- 27%)of pressure ulcers is up but incidence is going down
- Other variables examined did not show themselves as risk factors for pressure ulcer development.

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### Observations cont'd

- Diabetes plays a role in risk of developing pressure ulcers
- patients with diabetes were two times more likely to develop pressure ulcers than patients without diabetes.
- And patients with pressure ulcers are 1 2/3 times more likely to have DM

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### Limitations

- Prevalence and Incidence data reflect a snapshot in time.
- accuracy and documentation of the skin assessments and the ability of the data collector to accurately stage those patients with pressure ulcers.

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### Documentation on Admission

Year	Pressure Ulcer documented on admission (count)	Skin Assessment Completed on Admission (count)	Braden Score documented within 24 hours of admission (count)
2013 (Patient Count 1020)	72	201	146
2011 (Patient Count 1015)	60	151	105
% change 2011-2013	20%	33%	39%

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### Making the Connections

- One out of four patients had pressure ulcers in 2013
- Diabetes prevalence rates are at least 26- 31%
- Hospital acquired pressure ulcer rates are going down
- Patients with diabetes have two times the risk of developing pressure ulcers

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### Recommendations

- Prevention is key – turning, repositioning, Braden Scores, skin care, assessment
- Monitor patients with diabetes for pressure ulcer development
- Strategies for pressure ulcer prevention should also include education on risk status and strategies that optimize diabetes management.

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## Next Steps

- Dissemination of the data across the organization
- Discussions with key stakeholders on the implications of diabetes and pressure ulcer development with the intent of developing an action plan.
- Incorporate prevalence and incidence pressure ulcer information and prevalence information on diabetes into current skin and wound educational activities.
- Continue to integrate diabetes data collection into the next pressure ulcer prevalence and incidence study in October 2015.

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