

Truck Driving Research

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Université de Moncton



Spring in New Brunswick



Overview

- **HDRG overview**
- **Industry challenges**
- **3L model**
- **Conclusion**



Truck Driving Research

OVERVIEW

Healthy Driver Research Group

- Established 2010
- Université de Moncton



Driver

Cognition

Attention
Memory

Physiology

Senses
Health

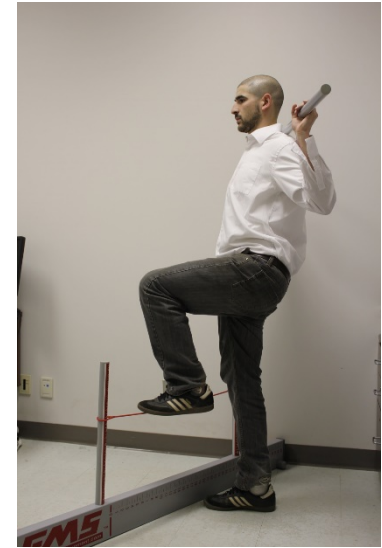
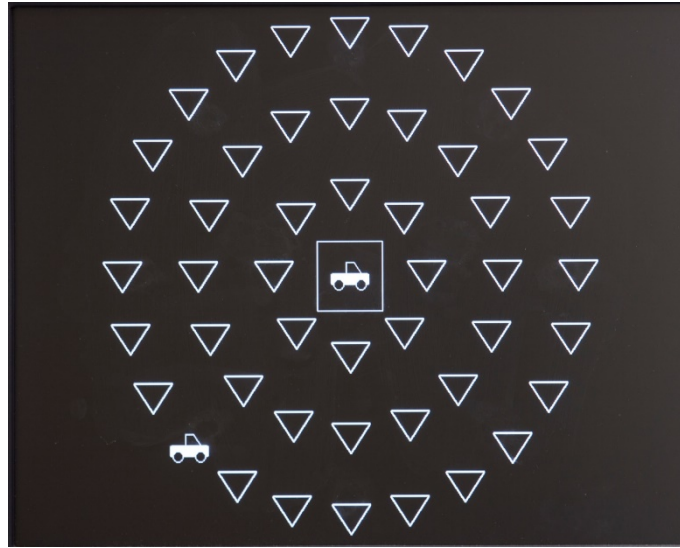
Perception/
Personality

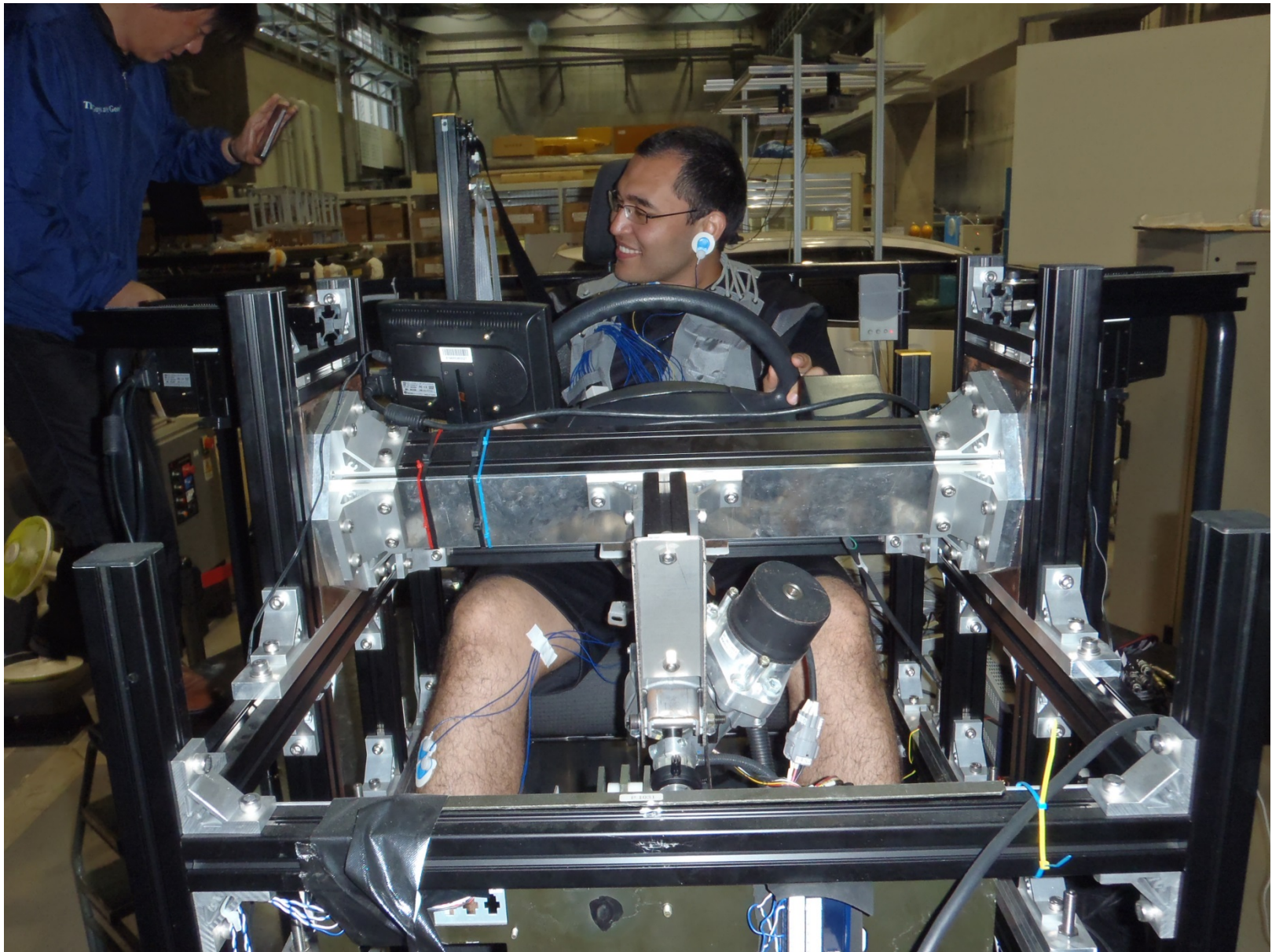
Skills
Confidence

Knowledge/
Experience

Training
Experience



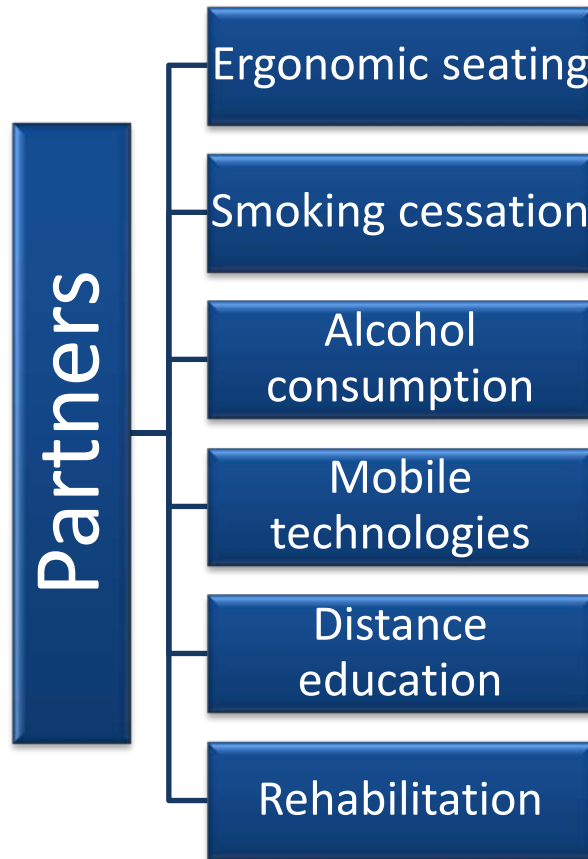




Mobile Unit



Innovation and Research



Truck Driving Research

INDUSTRY CHALLENGES

Trucking Industry

- **Canadian economy**
 - **\$67,000,000,000 per year industry**
 - **500,000 + employees**
 - **270,000 + truckers**



Human Resources

- **Shortage**
 - Driver demographics
 - Driver compensation
 - Driver quality of life
 - Driver qualifications.



Supply and Demand Challenge

Table 3

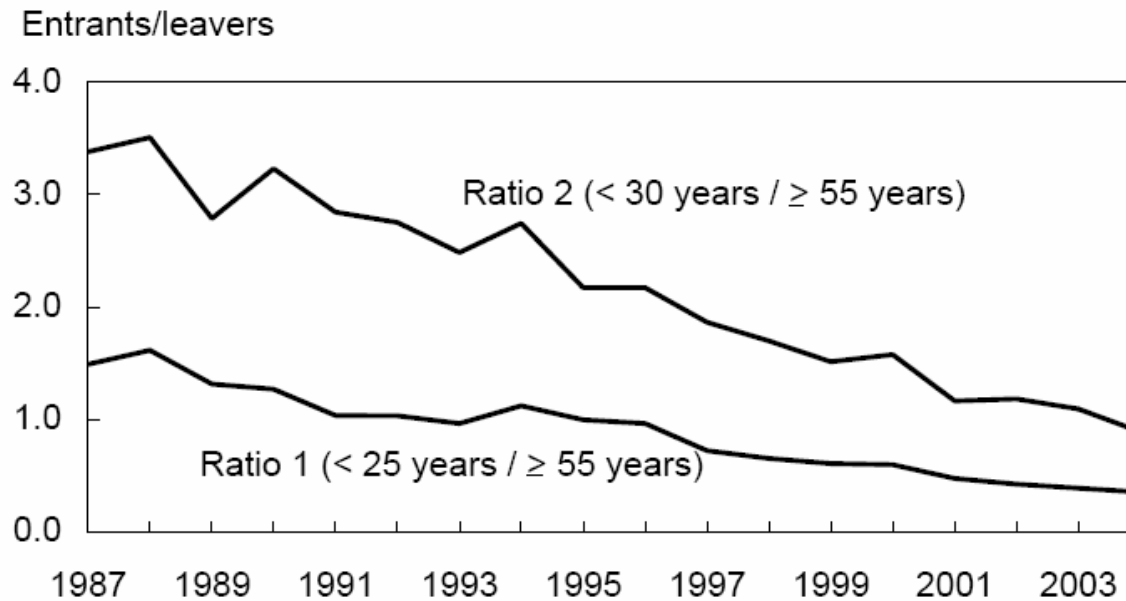
For-Hire Trucking Industry Supply and Demand Gap, 2020
(000s)

	Supply	Demand	Gap
Canada	178.0	202.7	24.7
Atlantic provinces	8.5	10.6	2.0
Quebec	37.2	42.4	5.2
Ontario	71.4	77.3	5.9
Manitoba	7.0	7.6	0.6
Saskatchewan	6.1	7.7	1.6
Alberta	23.3	29.4	6.2
British Columbia	24.3	27.7	3.4

Source: The Conference Board of Canada.

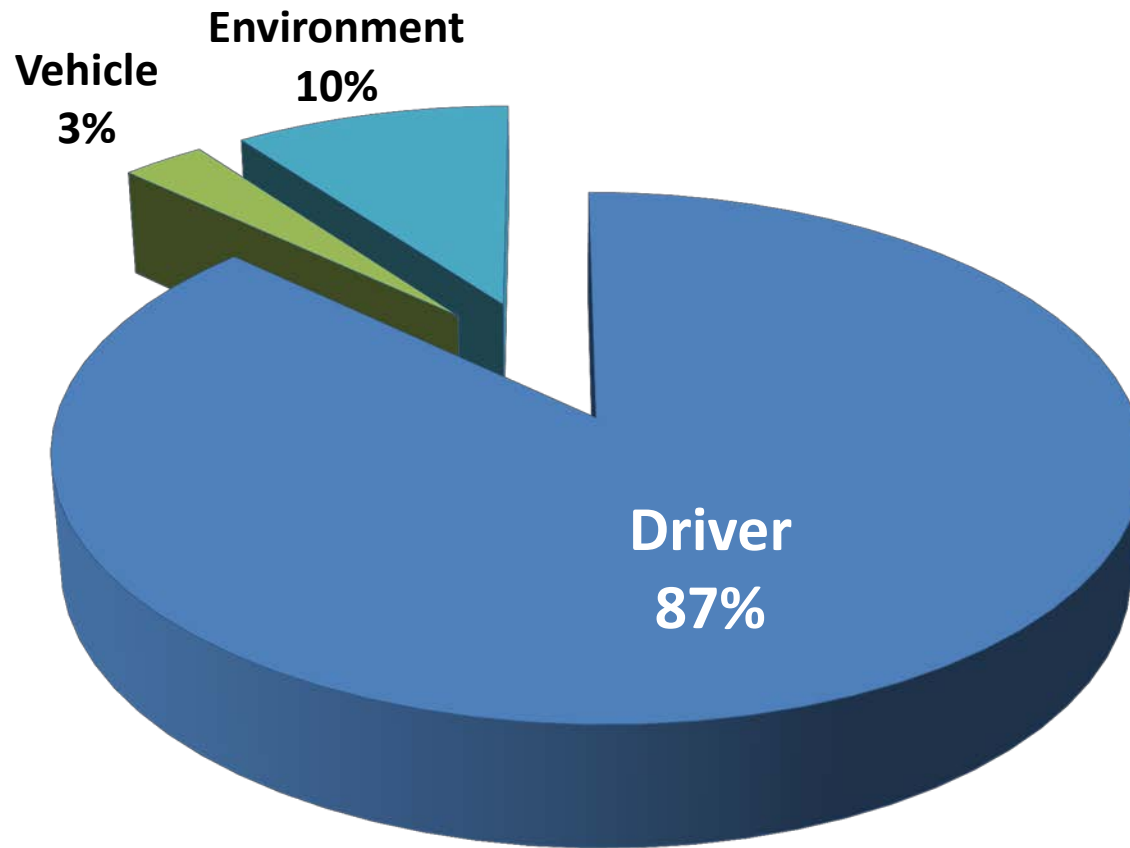
Aging Workforce

Chart D Truckers are greying more rapidly than other workers.

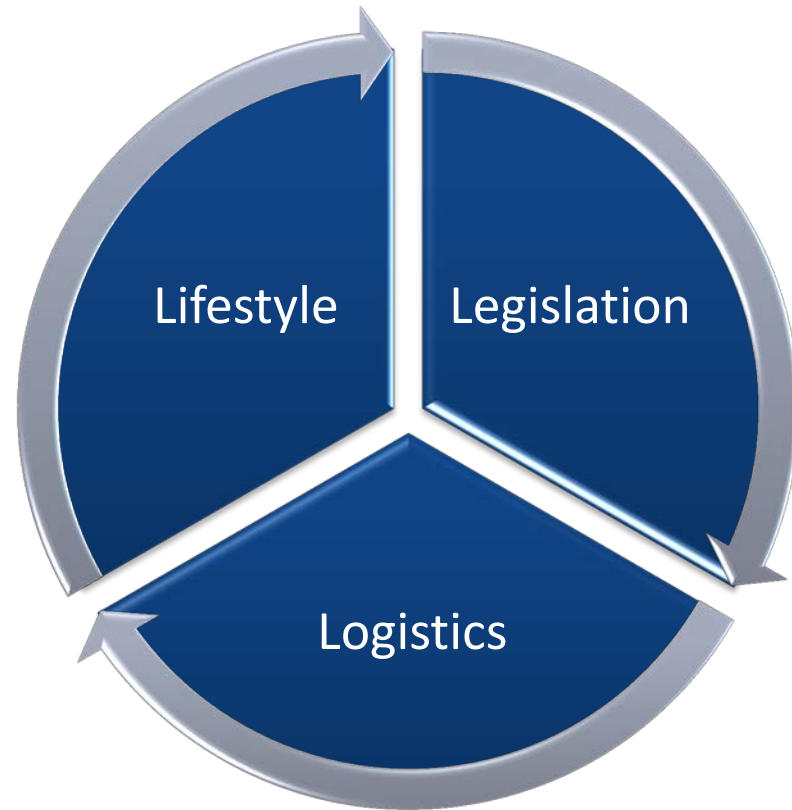


Source: Labour Force Survey

Collisions – Causes



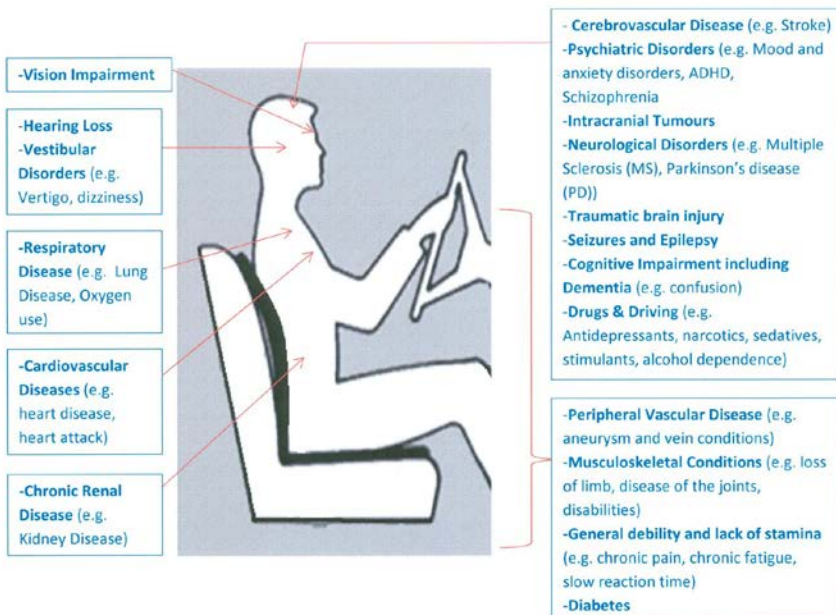
U.S. Department of Transportation (2006)



Truck Driving Research

LEGISLATION

Health is Safety



Condition	Crash Rates
Smoking	↑
Cardiovascular	↑
Diabetes	↑
Alcoholism	↑
Mental illness	↑

Fitness to Drive

Alberta Government

Medical Examination for Motor Vehicle Operators

Affix Microfilm Sticker Here

Name (Last, First, Second)		Date of Birth (yyyy/mm/dd)		Telephone Number	
Address Apartment		City / Town		Province	Postal Code
Occupation		Class of Licence Required	Operator's Licence Number		

A. MEDICAL HISTORY AND PHYSICAL EXAMINATION

Applicants must be examined for each of the following medical conditions using the criteria as set out in the Canadian Council of Motor Transport Administrators (CCMTA) Medical Standards on the back of this form. A "Yes" response indicates that the applicant does NOT meet the CCMTA Medical Standards for Drivers and as a result will be ineligible to be licensed at the time of application. A "Ref" (Referral) response will result in the applicant being required to provide further documentation from a medical specialist, optometrist, or audiologist.

1. Visual Acuity Results	Standards	4. Nervous System (Continued)	Yes No Ref								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Uncorrected</th> <th>Corrected</th> </tr> <tr> <td>Right 6/</td> <td>6/</td> </tr> <tr> <td>Left 6/</td> <td>6/</td> </tr> <tr> <td>Both 6/</td> <td>6/</td> </tr> </table>	Uncorrected	Corrected	Right 6/	6/	Left 6/	6/	Both 6/	6/	<p>Better eye 6/9 (20/30), weaker eye 6/30 (20/100) aided or unaided for Classes 1, 2, 3, 4 (Emergency).</p> <p>Better eye 6/12 (20/40), weaker eye 6/60 (20/200) aided or unaided for Classes 4 (Taxi) and 5 (Commercial).</p> <p>Better eye 6/15 (20/50) aided or unaided for Classes 5, 6 & 7.</p>	<p>f) Memory dysfunction or evidence of MILD dementia that should require the applicant to successfully pass a road test examination.</p> <p>g) Evidence of MODERATE to SEVERE dementia or cognitive dysfunction.</p>	<p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>
Uncorrected	Corrected										
Right 6/	6/										
Left 6/	6/										
Both 6/	6/										
2. Hearing		5. Respiratory System									
<p>Applies only to applicants wishing to operate a bus, taxi, ambulance, or transporters of dangerous goods.</p> <p>a) Loss greater than 40 decibels averaged at 500, 1000 and 2000 HZ. May require an audiogram (refer to back of</p>	<p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>	<p>a) Level 4 impairment (severe impairment 50 - 100%). Dyspnea after walking more than 100m at own pace on level ground or at rest (significant dyspnea - moderate exertion).</p>	<p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>								
		6. Metabolic System									
		a) If diabetes is present, state onset of illness									

Medical Examination Report FOR COMMERCIAL DRIVER FITNESS DETERMINATION

649-F (6045)

1. DRIVERS INFORMATION Driver completes this section

Driver's Name (Last, First, Middle)	Social Security No.	Birthdate M / D / Y	Age	Sex <input type="checkbox"/> M <input type="checkbox"/> F	New Certification Recertification Follow-up <input type="checkbox"/> <input type="checkbox"/>	Date of Exam
Address	City, State, Zip Code	Work Tel: ()	Driver License No.	License Class <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> Other	State of Issue	
		Home Tel: ()				

2. HEALTH HISTORY Driver completes this section, but medical examiner is encouraged to discuss with driver

Yes	No	Yes	No	Yes	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any illness or injury in the last 5 years? <input type="checkbox"/> Head/brain injuries, disorders or illnesses <input type="checkbox"/> Seizures, epilepsy <input type="checkbox"/> medication		<input type="checkbox"/> Lung disease, emphysema, asthma, chronic bronchitis <input type="checkbox"/> Kidney disease, dialysis <input type="checkbox"/> Liver disease <input type="checkbox"/> Digestive problems <input type="checkbox"/> Diabetes or elevated blood sugar controlled by: <input type="checkbox"/> diet <input type="checkbox"/> pills <input type="checkbox"/> insulin		<input type="checkbox"/> Fainting, dizziness <input type="checkbox"/> Sleep disorders, pauses in breathing while asleep, daytime sleepiness, loud snoring <input type="checkbox"/> Stroke or paralysis <input type="checkbox"/> Missing or impaired hand, arm, foot, leg <input type="checkbox"/> Tragic use <input type="checkbox"/> Chronic low back pain <input type="checkbox"/> Regular, frequent alcohol use <input type="checkbox"/> Narcotic or habit forming drug use	
<input type="checkbox"/> Eye disorders or impaired vision (except corrective lenses) <input type="checkbox"/> Ear disorders, loss of hearing or balance <input type="checkbox"/> Heart disease or heart attack, other cardiovascular condition <input type="checkbox"/> medication		<input type="checkbox"/> Nervous or psychiatric disorders, e.g., severe depression <input type="checkbox"/> medication			
<input type="checkbox"/> Heart surgery (valve replacement/bypass, angioplasty, pacemaker) <input type="checkbox"/> High blood pressure <input type="checkbox"/> Medication <input type="checkbox"/> Muscular disease <input type="checkbox"/> Shortness of breath		<input type="checkbox"/> Loss of, or altered consciousness			

For any YES answer, indicate onset date, diagnosis, treating physician's name and address, and any current limitation. List all medications (including over-the-counter medications) used regularly or recently.

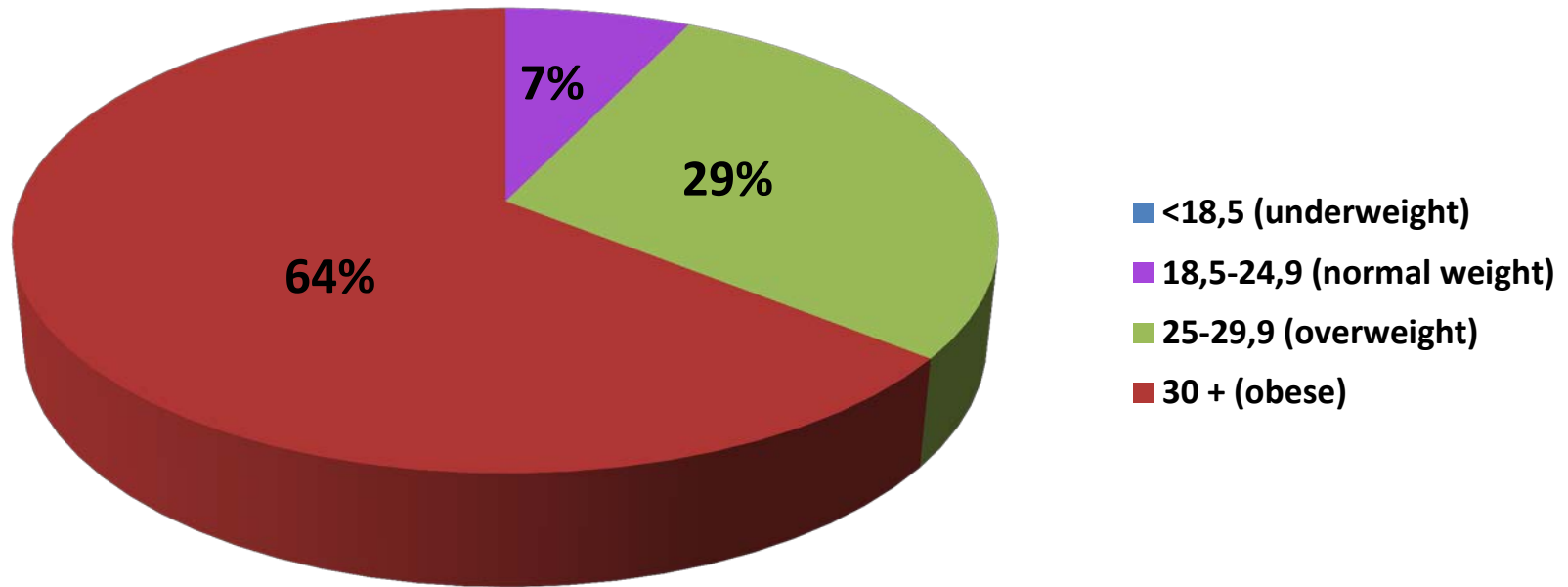
I certify that the above information is complete and true. I understand that inaccurate, false or missing information may invalidate the examination and my Medical Examiner's Certificate.

Driver's Signature _____ Date _____

Medical Examiner's Comments on Health History (The medical examiner must review and discuss with the driver any "yes" answers and potential hazards of medications, including over-the-counter medications, while driving. This discussion must be documented below.)

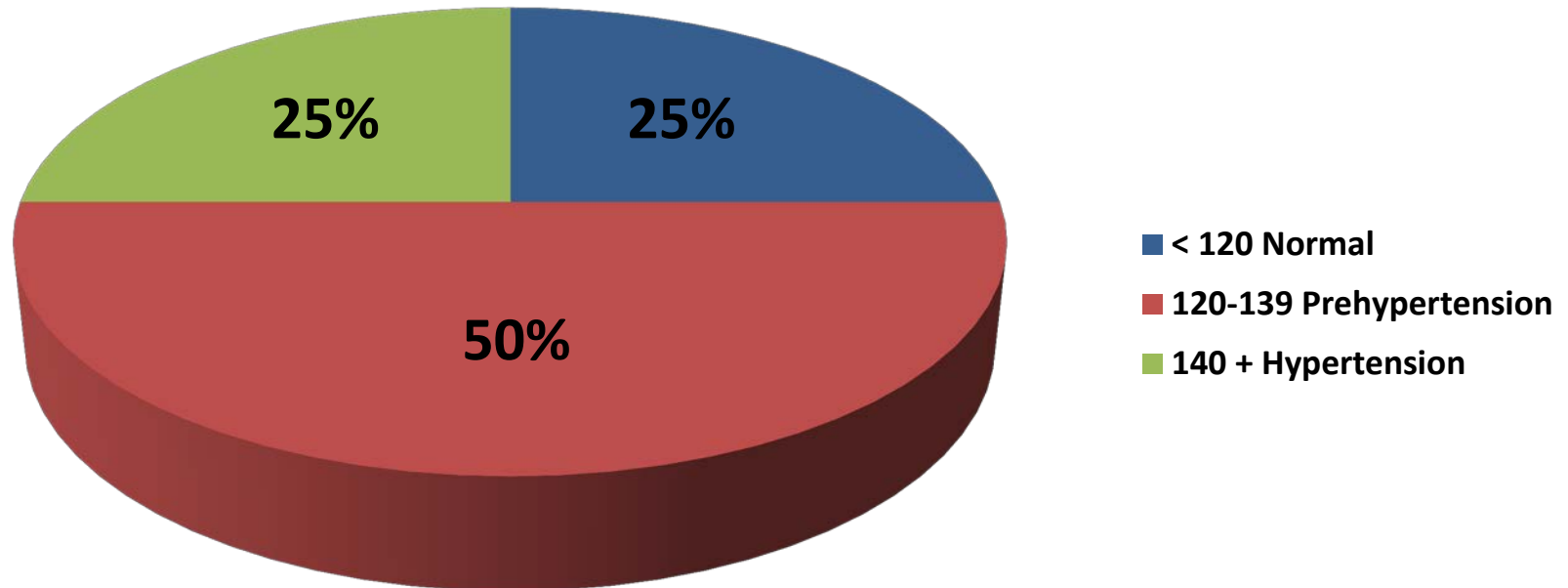
Sample HDRG Results

Body Mass Index (BMI)
(Male n=28)



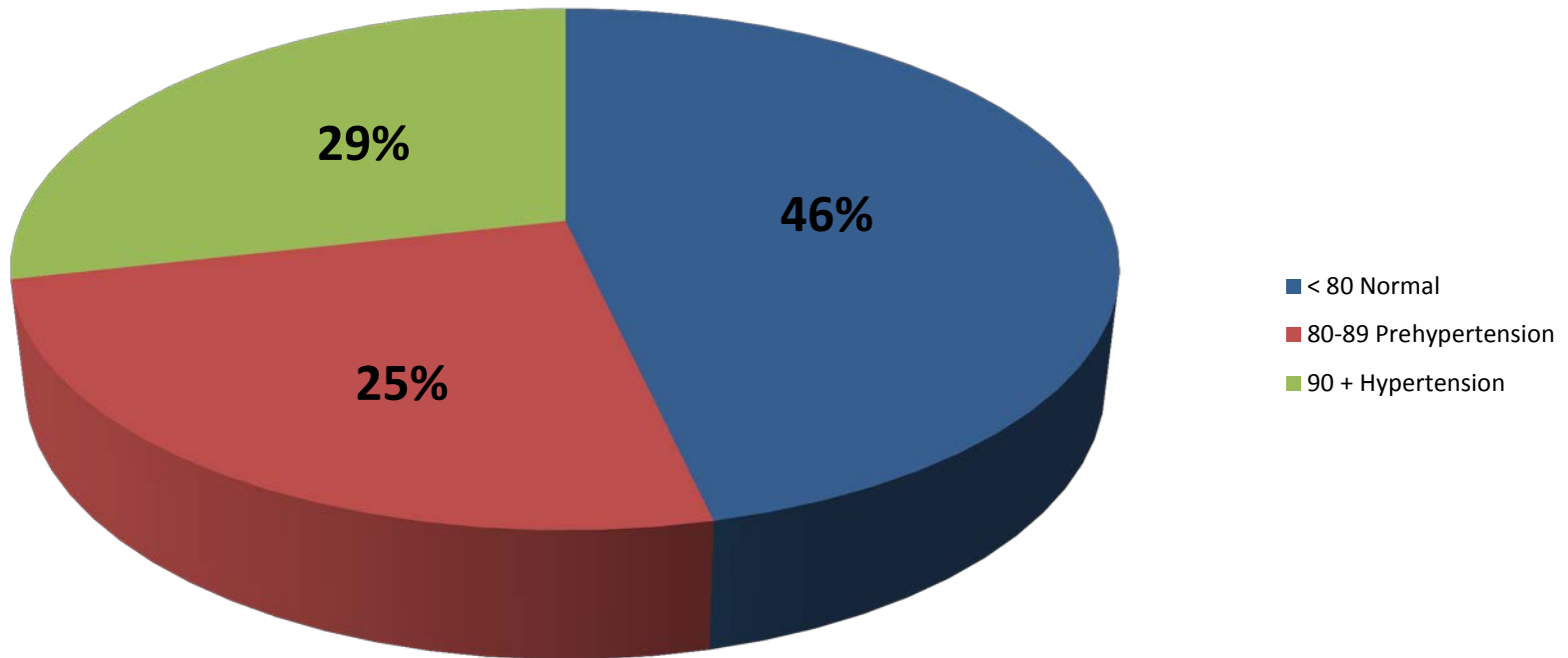
Sample HDRG Results

Systolic Blood Pressure
(Male n=28)



Sample HDRG Results

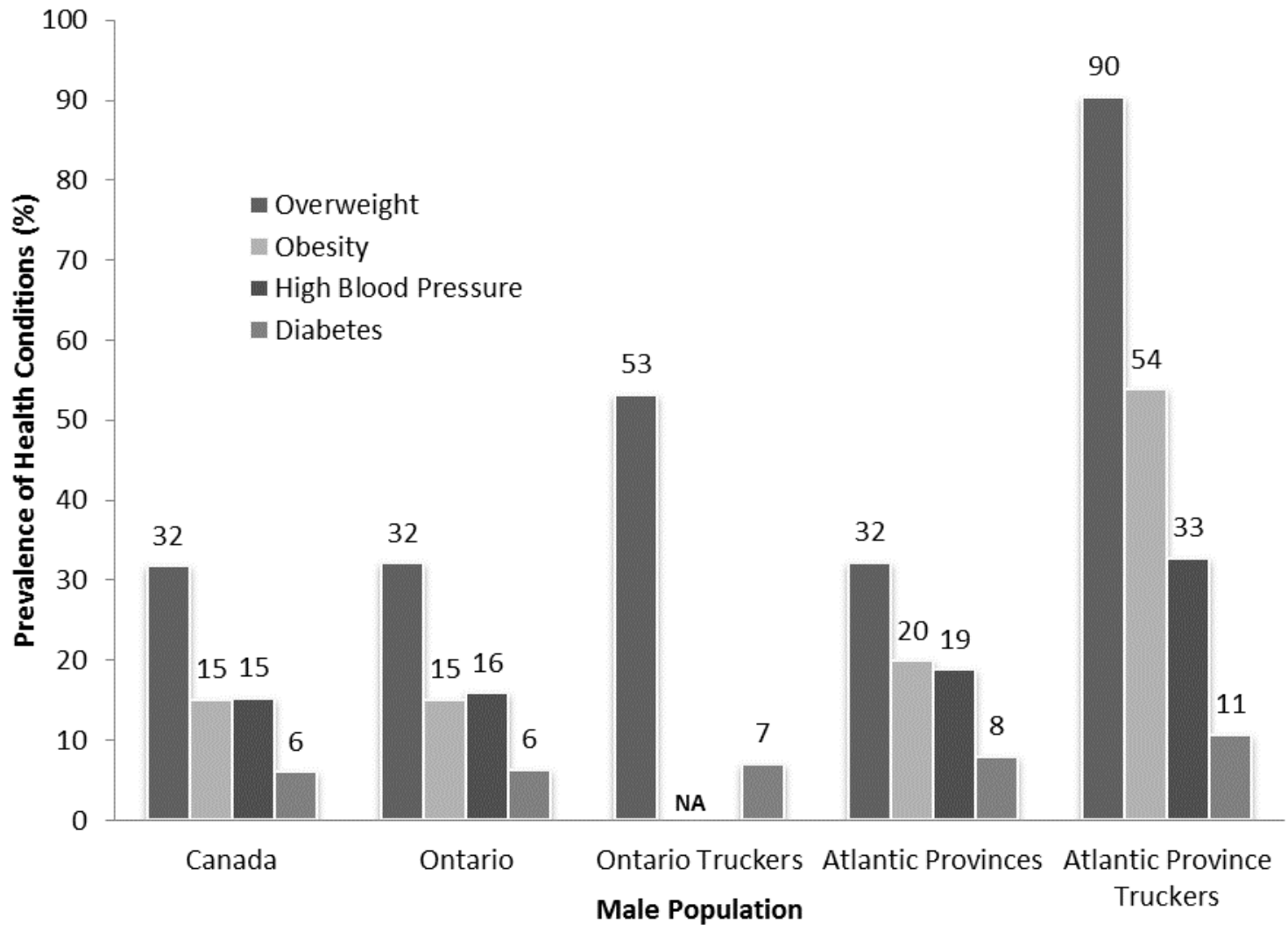
Diastolic Blood Pressure (Male n=28)

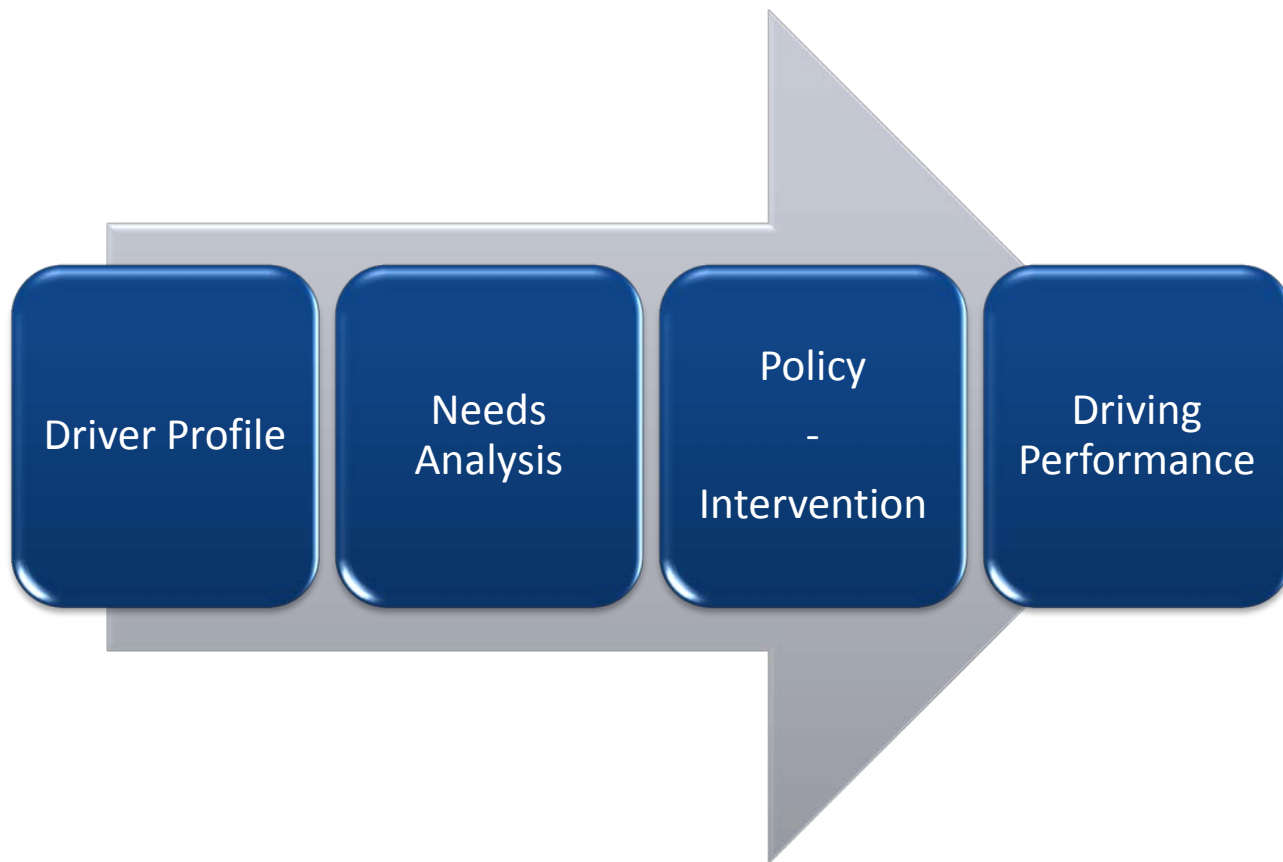


Considerations - Metrics

- **Consolidate provincial medical information**
 - Yearly reporting for new drivers
 - Current reporting frequency for current drivers
- **Pilot project**
 - 3-5 years
 - Link to medical usage and accident reporting







Truck Driving Research

LIFESTYLE

Adult Literacy

Facts

- Four out of 10 adult Canadians, age 16 to 65 struggle with low literacy.

The Canadian government defines
the 9 essential skills as:

1. Reading
2. Document Use
3. Numeracy
4. Writing
5. Oral Communication
6. Working With Others
7. Thinking
8. Computer Use
9. Continuous Learning

Labour Costs

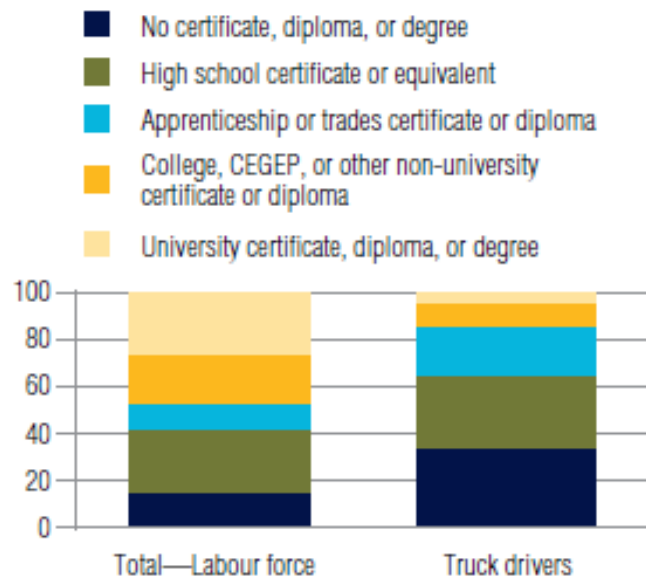
- **1 out of 3 Canadian employers experience basic skills-related problems with their workforce, yet less than 1 out of 10 employers are involved in literacy programs or referrals to programs.**
 - (Source: International Adult Literacy Survey, Statistics Canada, 1994).
- **1992: 4 billion per year**
- **2007: 32 billion per year**
- **A 1% increase in the literacy rate would generate \$18 billion in economic growth every year**



Trucking Industry

Chart 5

Education Level—Truck Drivers (For-Hire and Private Trucking) and Total Labour Force (percentage share)



CEGEP = Collège d'enseignement général et professionnel

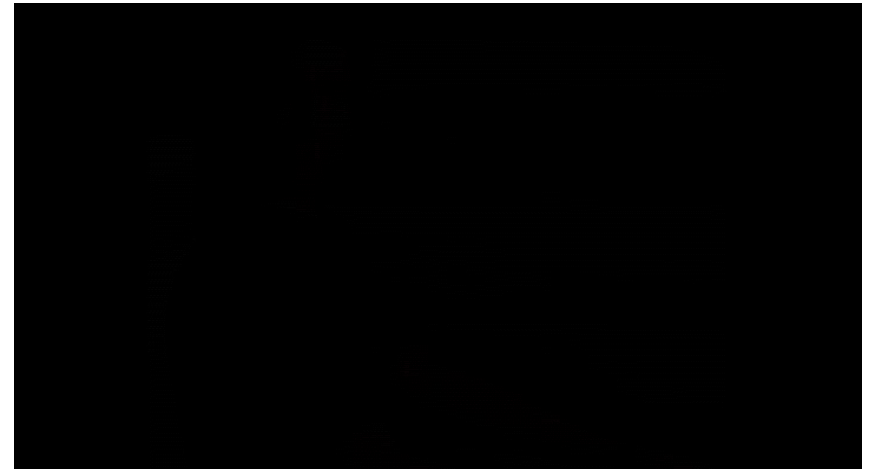
*National Occupational Classification (NOC) definition

Source: Statistics Canada, 2006 Census.

- Canadians with the lowest health-literacy skills are 2.5 times more likely to report being in fair or poor health as those with the highest skill levels, even after correcting for factors such as age, education and gender.
 - Canadian Council on Learning

Health Literacy

- **High School Diploma**
 - **Obesity**
 - **High blood pressure**
 - **Metabolic syndrome**



Considerations – Education Support

- **Tax incentives (employer and employee)**
 - High school diploma (online)
 - Continuing education

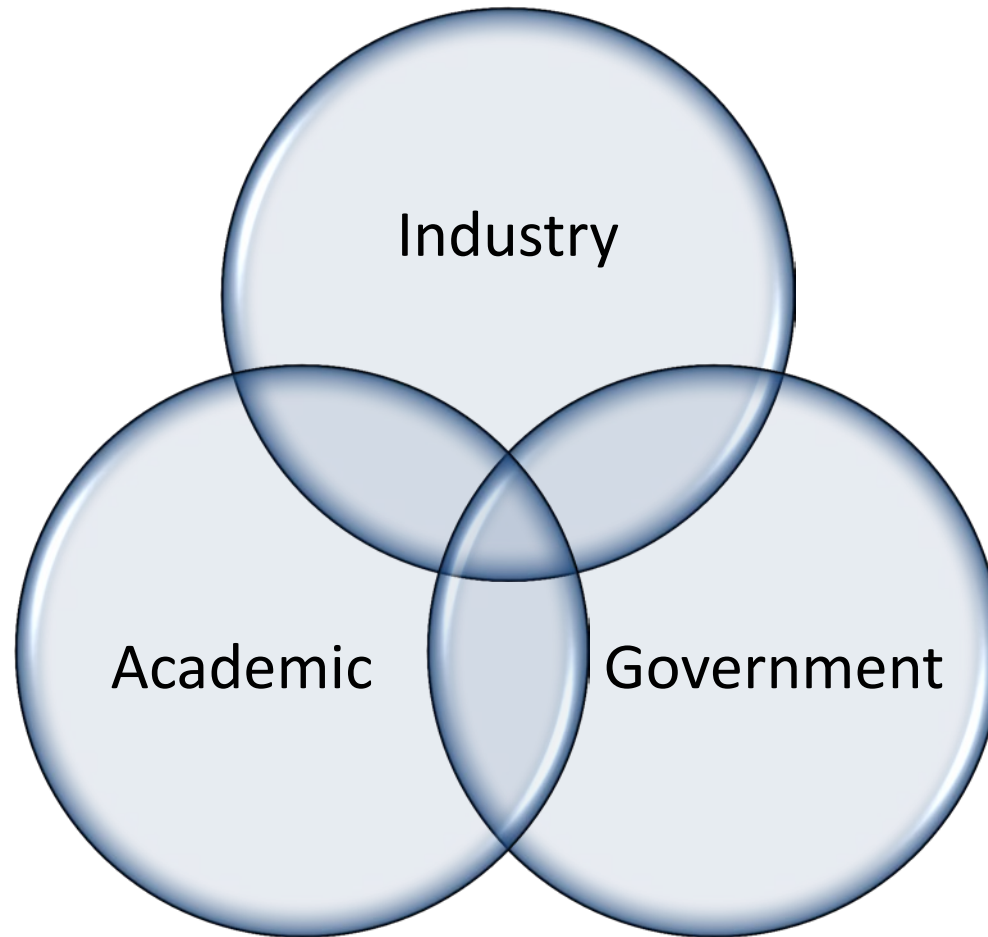


Truck Driving Research

LOGISTICS



Atlantic Canada Community of Practice – Dec 2014



Exploring Health in the Trucking Industry

- **OBJECTIVE:** Much of the discussions were centered on the safety and stress level of truckers and looking for initiatives that will improve the overall wellness of truckers.
- Agreed that there is no single solution to those issues.



Short-term Solutions

- **Focus on dispatcher: Communication, particularly between the dispatcher and the trucker, is essential**
 - a. Ongoing, education in all its forms: orientation, training, mentoring, coaching is necessary and need to be timely and up to date.
 - b. Training is necessary in technology and in people skills
 - c. Personality profiles might be useful in improving communication and interaction.
- **2. Look to best practices so as not to reinvent the wheel (ie. In five best transport companies).**
- **3. Other themes to consider: nutrition, rest, exercise, general education.**



Considerations

- **Dispatcher - formal recognition and job description**
 - Tasks and scope of practice
 - Skill requirements
 - Training





**Atlantic Canada
Opportunities
Agency**



New Brunswick
Health Research
Foundation



Fondation de la
recherche en santé
du Nouveau-Brunswick

apta ATLANTIC PROVINCES
TRUCKING ASSOCIATION

FINBIF
INNOVATION