

s r s arc an r port was pro uc by C C nt r or Construct on s arc an
 ran n as part o a coop rat v a r nt w t t at ona Inst tut or ccupat ona a ty
 an H at I H H r s arc s so y t r spons b ty o t aut ors an
 o s not n c ssar y r pr s nt t o c a v ws o I H C t r s arc an tran n
 ar o t Bu n an Construct on ra s D part nt AFL CI s un qu y s tuat to
 s rv wor rs contractors an t sc nt c co un ty For or n or at on v s t
 www cpwr co

s r s arc was con uct w t r str ct acc ss to Bur au o Labor tat st cs BL
 ata v ws xpr ss r o not n c ssar y r ct t v ws o t BL

Copyr t , C C nt r or Construct on s arc an ran n A r ts
 r s rv o obta n cop s or or p r ss on to r pro uc t s r port contact ub cat ons
 C ut G or a Av nu v r pr n MD , ax ,
 40 40

s , r port up at s on or na y ssu n an up at n an

Acknowledgment

au Moor a ty En n r D v s on o a ty s arc I H prov FACE r ports to
 ass st w t pr parat on o t s r port Jan G tt an or r Assoc at D r ctor or a ty an
 H at s arc C an Mar Mu ns at ona Coor nator E vator In ustry or
 r s rvat on Fun prov r v w r co nts u Don Data C nt r D r ctor C
 prov at an n ury rat n or at on

Abbreviations

AME	A r can oc ty o M c an ca En n rs
BL	Bur au o Labor tat st cs
CF I	C nsus o Fata ccupat ona In ur s BL

**Deaths and Injuries
Involving
Elevators or Escalators**

Michael McCann, PhD, CIH

September 2013

Contents

Summary 2

Introduction 3

Deaths Involving Work in or near Elevators and Escalators 3

Elevator Constructors 3

Activities and Causes of Deaths 5

Statistical Data Sources 6

Injuries Involving Work in or near Elevators or Escalators 7

Deaths and Injuries Involving Elevator and Escalator Passengers 7

Elevator Passenger Deaths 7

Escalator Passenger Deaths 9

Elevator and Escalator Passenger Injuries 9

Summary of Elevator and Escalator Deaths 10

Recommendations 11

Statistical Data Sources 11

Ensuring a Safe Environment 11

Executive Summary

s r port



Introduction

Evaluators and researchers are potential sources of serious nursing data to the general public

Figure 1. Deaths related to work on or near elevators, by occupation, 1992-2009.

At our university, we have a group of people who are interested in the construction of buildings. They are interested in the construction of buildings.

From our experience, we have seen that the construction of buildings is a very complex process. It involves many different aspects, such as the design, the construction, and the maintenance of the building. We have seen that the construction of buildings is a very complex process.

Figure 3.

Additional Data Sources

Additional Institutional Occupational and Health Information Systems
at Statistics Canada's Family Assessment and Control Evaluation (FACE) reports
<http://www.ccoanos.ca> reports are produced through surveys conducted
by the Health Services and Research Authority by statistical departments
personnel with the national assessment workers at Statistics Canada's FACE
reports include variables at the regional level. FACE provides an
assessment of the consistency with the Bureau's or census on the
Occupational Injuries Reports and includes the CF I narrative. The FACE reports
include the following variables with the current construction of the

Labor statistics data. Information on non-occupational passenger injuries and deaths
 concerning employees at work was obtained from the Census Bureau's
 Electronic Injury and Death Data.

Elevator passenger deaths

Working passengers: Census data from the Bureau of Labor Statistics show
 elevator passenger deaths among employees working at work
 on average by year (see Figure 4). Since supervisors analyze records
 and analysts can identify supervisors plus a variety of other occupational
 deaths at work as a separate category, it is not clear that
 occurrences in an elevator or on an elevator car to the car
 door on a station or on a stairway or on a floor or on a
 platform between an elevator shaft or on a
 platform or between an elevator shaft or on a
 platform.

Figure 4. Deaths among elevator passengers while at work, by cause, 1992-2009.

Source: Fatal injury data were obtained by Census Bureau from the Bureau of Labor Statistics
 Census Bureau's Electronic Injury and Death Data.

Passengers not at work: From 1992 to 2009, the Census Bureau reported non-occupational
 elevator passengers about 1.5 million. Falls caused over a third of the deaths (see Figure 4).
 About a third of the deaths were among passengers who were not at work.

o Is an out Data mn ss xas , r na as n ton
st r na an scons n , ocat on stat o _pass n r at s was not r cor
xt no t at s nvo v c r no a or youn r

Figure



not not that st C C st at t at t r w r — acc nts p r sca ator an
acc nts p r vator annua y In — t C C st at t at t r ar osp ta
r ncy roo tr at n ur s assoc at w t sca ators ac y ar C C —

C C st at t at t o t sca ator n ur s r su t ro a s — ro ntrap nt
at t botto or top o an sca ator or b tw n a ov n sta r an sca ator s wa an o
t ncs w r cat or as ot r n c u n su n stops o t sca ator an r v rsa o
r ct on cau t n ncs n ra y r su t n or s rous n ur st an a s
part cu ar conc rn st actr or or b b ac pp — s — xn — t —

o c o n r r r a w — o u r u tor J, w a, o, c, o, a

Recommendations

Investigative analysis of the cause of the accident and the involvement of the contractor and the contractor's insurance company.

5. A. Local Outcomes

More than a total of workers at the site were caused by the contractor's insurance company. The contractor's insurance company is not allowed to pay for the contractor's insurance. Many causes between the contractor and the contractor's insurance company. The contractor's insurance company is not allowed to pay for the contractor's insurance. The contractor's insurance company is not allowed to pay for the contractor's insurance.

The contractor's insurance company is not allowed to pay for the contractor's insurance. The contractor's insurance company is not allowed to pay for the contractor's insurance. The contractor's insurance company is not allowed to pay for the contractor's insurance.

proper protection usually by us... for construction... In... controls are not practical... protection systems are required. A... points or... protection... stability... work... to... work... HA also... requires... CF... an... CF... an...

temporary structures... stability... to support... activity... work... structures



s s an tra n n to carry out a ob but a so ncorporat s nts to nsur t a quat sa ty
an at o t wor r n a n t act v ty L c ns n or vator r at pro ss ons
usua y nvo v s bot ucat on an ocu nt wor xp r nc



References

Annex 1. Examples of NIOSH FACE Summaries of Elevator- and Escalator-Related Deaths

s xa p sar ne u to v ta xa p so t typ so ata ne nts nvo v n
vators an sca ators an r co n pr caut ons

Maryland Division of Labor and Industry
FACE Report 96MD05501

pas n t portanc o r co n n an contro n a ar s n t wor pac
s proc ur s s ou nc u but not b t to con uct n a ar va uat ons
b or n t at n wor at a ob s t an p nt n appropr at contro s

- I nt yar as t at ay b a ar ous to p rsonn an r str ct or pro b t t us o or
acc ss to t s ar as

California Department of Health Services

FACE Report 94CA01401

Elevator Maintenance Worker Dies from Fall in an Elevator Shaft in California

MMA Y

A , yar o w t non H span c a vator a nt nanc wor r t v ct a t r
a n approx at y, t nto an vator s a t At t t o t nc nt t c nt an
two cowor rs w r pu n a y rau c p ston out ro t botto o t vator s a t so t at a
n w n r cou b nsta r or to p r or n t s op rat on t wor rs a nsta an
ctr ca y pow r bas ount capstan a r vo v n barr on a v rt ca ax s or w n n
cab or cat a nt botto o t vator s a t w c was to b us as a o st to t t
p ston up to t top o t s a t Co wor r — a b n s nt to t ourt oor so t at cou
n or t ot r wor rs w nt p ston r ac t top o t s a t v ct was wor n
ro t rst oor an co wor r was at t botto o t s a t Co wor r —y w n
t p ston t t top o t vator s a t but s co



- vator s rv c co pany s ou v op proc ur s or so at n t pow r sourc
o vators t at prot cts p oy s ro contact w t a ar ous n r y w n nt r n
p t ar as

-



- t at c, — Mon out County J
- Man a — ro vator t at stopp — nc s s ort o v oor contus n
bot n s — ,

Workers' Compensation Board of British Columbia

www.wor-sa.bc.ca

Hazard Alert 03-05: Young worker injured in elevator shaft

In ustry rv c

A — y ars

Ar a Low r Ma n an

A rst y ar vator appr nt c was wor n ns an vator s a t o a bu n un r
construct on s youn wor r was not awar t at an vator n t s s a t was st b n t st
or op rat on by an vator c an c wor n n t vator ac n ry roo youn
wor r was squ nto a, nc spac w n t vator car ov ro on oor to anot r
H susta n bru s n to t bac an ront o s torso An acc nt nv st at on r v a t at
t wor rs not co un cat w t ac ot r an not o ow oc out proc ur s
youn wor r a not r c v a quat nstruct on an tra n n act v t s o t wor rs
a not b n a quat y sup rv s

Safe work practices:

- p oy r ust nsur t at a wor rs ar a quat y tra n nstruct an
sup rv s n t sa p r or anc o t r ut s
- Loc out proc ur s ust b o ow w n wor n ns an vator s a t

