

NRC-CNRC

From **Discovery**
to **Innovation...**

2010 NATIONAL MODEL CONSTRUCTION CODES

Residential Care

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National Research
Council Canada

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Canada



Introduction

- Presentation is part of a series on the 2010 National Model Construction Codes
- Model codes developed by Canadian Commission on Building and Fire Codes
- These codes must be adopted by provincial/territorial authorities to become law



Rationale for Change

- Provincial and territorial regulators looking for more flexible alternative to Group B Division 2
- Owners and operators of care facilities burdened with current Group B Division 2 classification in all cases





Objectives of the Commission

- Maintain level of safety proportionate to identified risk
- Provide cost-effective alternatives
- Clarify areas of misinterpretation



Residential Care

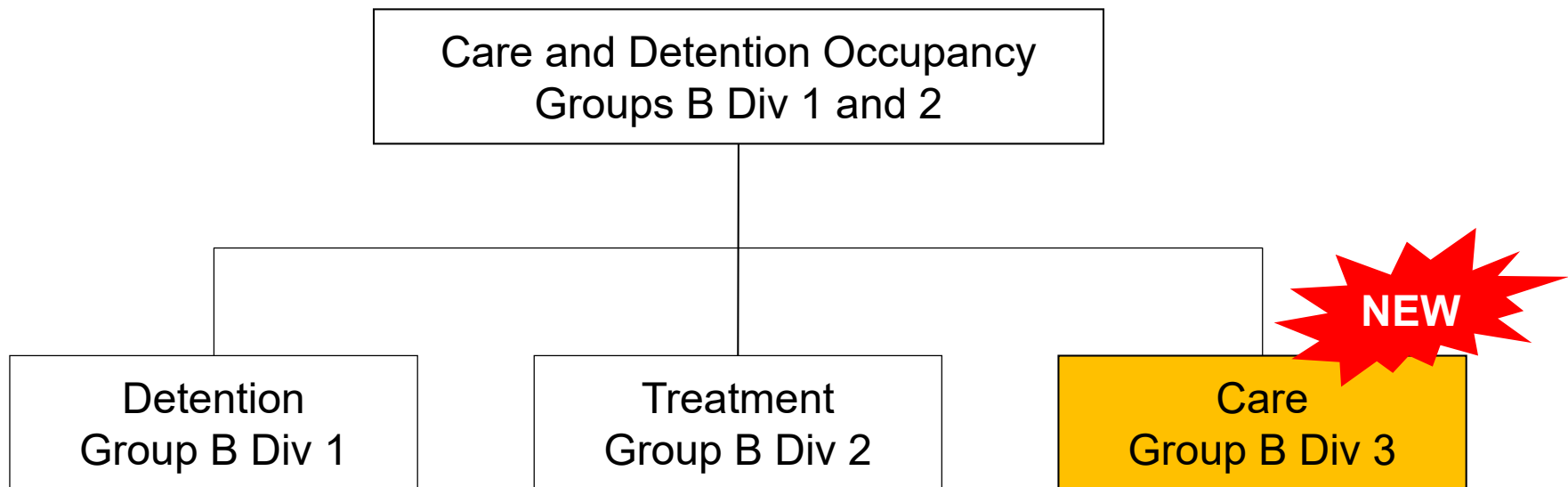
- New Definitions
- Construction Type
- Design Criteria
- Sprinklers
- Smoke Alarms





Care Occupancy

Occupancy Classification





2005 Classification

- *Care or detention occupancy* means the *occupancy* or use of a *building* or part thereof by persons who require special care or treatment because of cognitive or physical limitations or by persons who are restrained from, or are incapable of, self-preservation because of security measures not under their control
 - Group B Division 1 - Detention
 - Group B Division 2 - Care



Definition – Treatment

- ... provision of medical or other health-related intervention to persons... may render them incapable of evacuating to a safe location without the assistance of another person





Definition – Treatment Occupancy

- ... provision of *treatment* where overnight accommodation is available to facilitate the *treatment*





Definition – Care

- ... provision of services other than *treatment* by, or through, facility care management to residents who require these services because of cognitive, physical or behavioural limitations





Definition – Care Occupancy

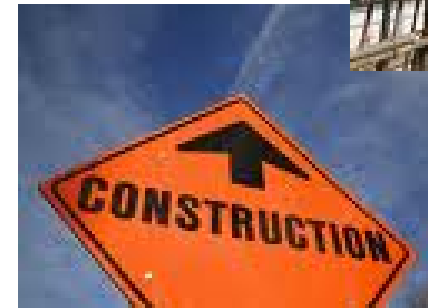
- ... *occupancy* or use of a *building* or part thereof where care is provided to residents
- Now referred to as GROUP B DIV 3
 - Exceeding 24 hours
 - By or through facility management





Residential Care

- New Definitions
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Construction

- Allows options in types of construction materials used





Construction

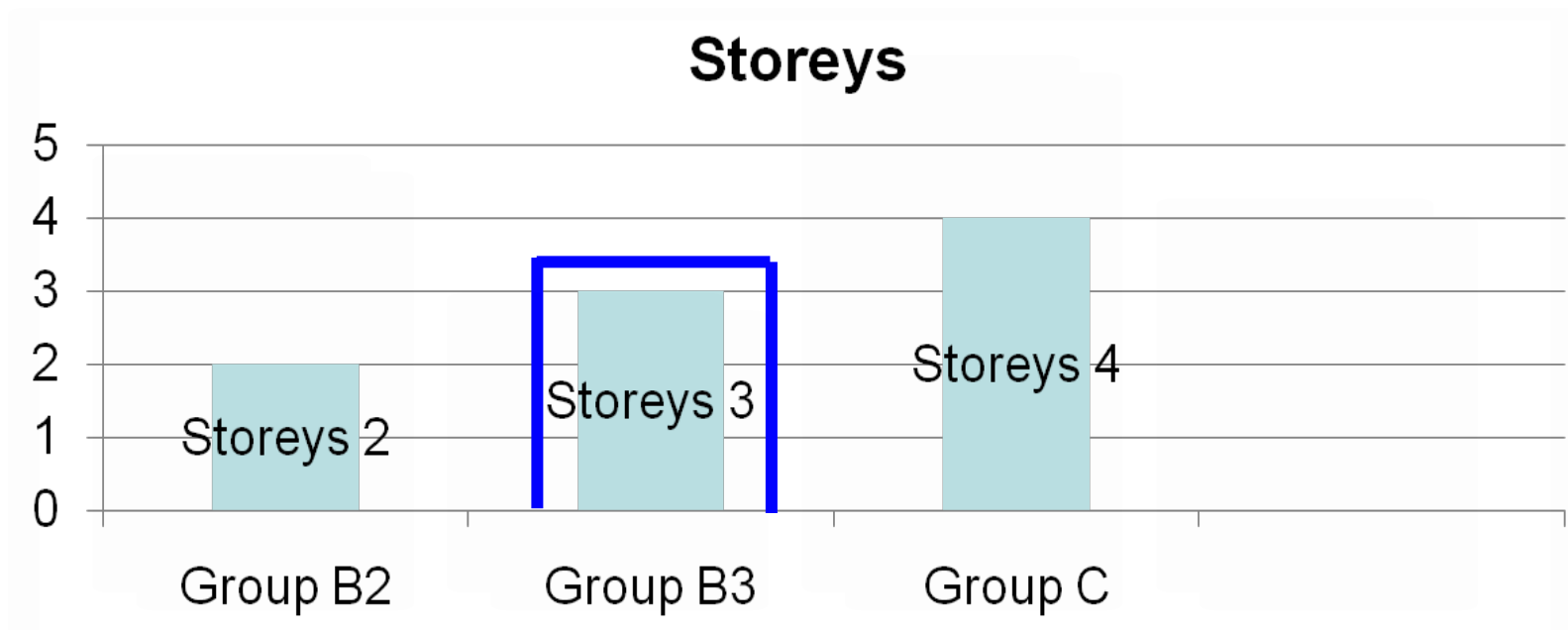
- Maximum building area for combustible construction, sprinklered

Building Height	Group B Div 2	Group B Div 3	Group C
1 Storey	2400 m ²	<u>5400</u> m ²	7200 m ²
2 Storeys	1600 m ²	<u>2700</u> m ²	3600 m ²
3 Storeys	Not allowed	<u>1800</u> m ²	2400 m ²
4 Storeys	Not allowed	Not allowed	1800 m ²



Construction

- Permitted combustible up to 3 storeys with building area





Construction

- No mezzanine floor fire-resistance rating requirement for one storey $\leq 600 \text{ m}^2$





Residential Care

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Corridor Width

- Treatment where patients moved in beds: **2400 mm**
- Treatment where corridors not used to move patients: **1650 mm**
- Care > 10 residents and corridors serve those residents: **1650 mm**
- Care \leq 10 residents: **1100 mm**





Ramp Width

- Ramps serving residents' sleeping rooms permitted to be **1100 mm**





Stair Width

- More than 10 residents
 - Not more than 2 storeys above lowest exit level
 - 1100 mm
 - Serves more than 2 storeys above lowest exit level
 - 1650 mm





Stair Width

- Not more than 10 residents
 - Not more than 2 storeys above lowest exit level
 - 900 mm
 - Serves more than 2 storeys above lowest exit level
 - 1100 mm





Door Width

- **2005 Code**
 - 1050 mm
- **2010 Code**
Any B3 Occupancy
 - Clear width of 850 mm
- Width based on the concept of one person providing assistance to another during evacuation





Residential Care

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Sprinklers

- NFPA 13 – most Group B Div 3 occupancies
 - Occupant load exceeds 10, OR
 - Greater than 3 storeys in building height





B3 Construction Sprinklers

- NFPA 13R – B3 occupancies
 - Occupant load not more 10, AND
 - 3 storeys or less in building height





B3 Construction Sprinklers Relaxation

- NFPA 13D – B3 occupancies
 - Contains not more than 2 suites
 - Not more than 5 residents throughout**AND**
 - 30 minute water supply demand can be met





Residential Care

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- **Smoke Alarms**





Smoke Detectors and Alarms

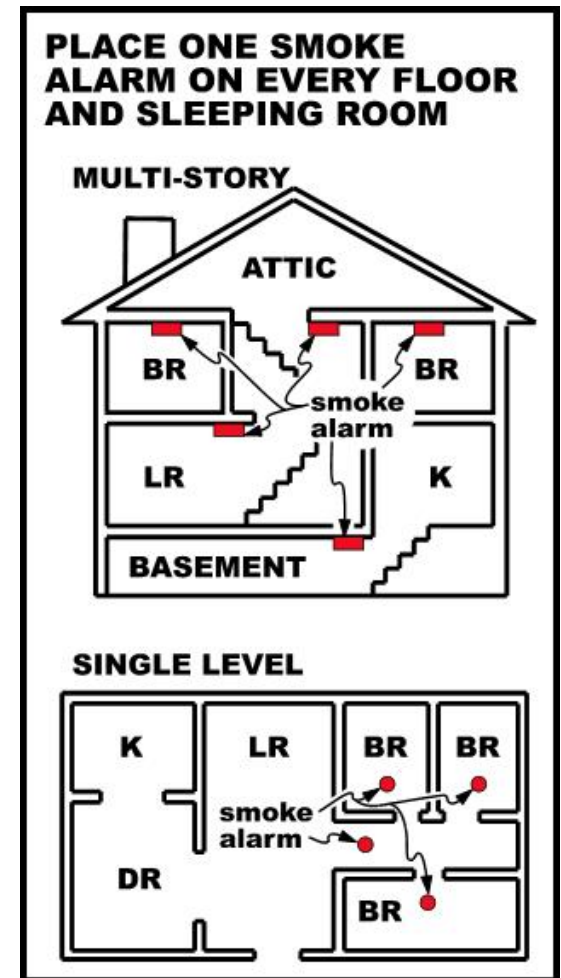
- Permit use of smoke alarms within sleeping rooms and suites of residential care in lieu of smoke detectors





Smoke Alarms

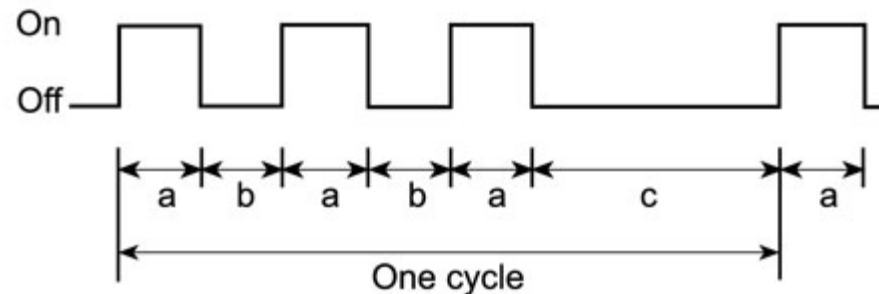
- Smoke alarm shall
 - be installed in bedrooms
 - Fires in sleeping rooms are second highest causes of fire deaths





Smoke Alarms

- Smoke alarm shall
 - meet the temporal pattern or voice relay
 - Improve audibility and early detection



Phase a: = signal is on for 0.5 ± 0.05 s

Phase b: = signal is off for 0.5 ± 0.05 s

Phase c: = signal is off for 1.5 ± 0.15 s

Total cycle to last 4.0 ± 0.40 s



Convalescent and Children's Custodial Homes



- Classified as residential occupancy within Part 3
- Occupants must be
 - ambulatory
 - live in single housekeeping unit
- Accommodation for not more than 10 persons

NEW

Summary



- New classification group B Div. 3 introduced
- Various relaxations from current B2 requirements for
 - Construction
 - Corridor and door widths
 - Sprinkler
 - Fire alarm



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Questions?

Send them to us at codes@nrc-cnrc.gc.ca

Thank you!